MSPB'S SOYBEAN MANAGEMENT PRACTICES SURVEY–2016 RESULTS

OsbornBarr, MSPB's communications contractor, commissioned a survey of Mississippi soybean producers to determine practices they use in producing a crop, and the sources they depend on for production information.

In the following narrative, responses to the 2016 survey are shown, with responses to the same queries in the 2015 survey shown in parentheses.

1,900 (1,900) surveys were distributed by mail to Mississippi soybean producers, and 280 (283) completed surveys were returned. This 14.7% (14.9%) participation rate is above normal for an external survey.

71% (60%) of respondents farm over 1000 acres. 52% (43%) of responding producers have over 1000 soybean acres; thus, 48% (57%) have under 1000 soybean acres. 24% of respondents reported 501-1000 soybean acres both years, and 23% (33%) of the respondents reported less than 500 acres of soybeans.

General Crop Production

66% (69%) of responding producers rotate soybeans with another crop on an annual basis, and 90% (64%) of those growers rotate with corn. Milo and rice are the next most rotated crops with soybeans at 11% (17%) and 19% (14%), respectively.

35% (44%) of the respondents plant in rows that are less than 30 in. wide, while 25% (21%) plant in twin rows that are on 30- to 40-in. centers. 42% (36%) plant on rows that are >30 in. wide. The 38-in. twin row system was the most-used twin-row pattern in both years (24% and 19%). About two-thirds of respondents in both years use narrow or twin rows.

In both years, yield is the trait rated most important by respondents when selecting a variety, with range of maturity groups and specific soil type of a field to be planted to a variety ranking as second and third most important.

95% (96%) of respondents viewed variety selection as the most important factor for increasing soybean yields, while soil sampling at 82% (80%), crop rotation at 76% (74%), and fungicide application at 71% (70%) were also viewed as significant factors to consider for yield increase.

Weed resistance was the most-listed soybean production issue or problem and yield was the next most-listed issue in both years.

77% (74%) of responding growers always apply fungicides, insecticides, and herbicides at the full labeled rate.

Soil Factors

62% (61%) of the respondents always test soil for fertility at least every 3 years, and 57% (59%) collect soil fertility samples on most (76-100%) of their acres.

67% (61%) of the respondents know the amounts of nutrients removed from the soil by their soybean crop.

74% (69%) of the respondents ensure adequate fertility on their soybean acres based on soil test results.

49% (48%) of growers know their soil pH every year.

Irrigation

42% (48%) of the respondents do not irrigate soybeans.

Of those that irrigate, 49% (42%) use PHAUCET/Pipe Planner, 20% (14%) use surge valves, and 37% (31%) use soil moisture sensors.

A low percentage of irrigated producers know the amount of water they are using to irrigate most (81-100%) of their irrigated soybean acreage as indicated by only 16% (8%) who use well or flow meters. 60% (72%) of the irrigators monitor their water use on less than 40% of their irrigated acres.

Insect and Disease Factors

74% (77%) of the respondents check or scout fields for presence of major diseases on a weekly basis, and 82% (83%) check for insects on a weekly basis.

75% (77%) of the weekly scouting is always done by walking the fields.

50% (50%) of the respondents always use scouting practices to make decisions that will manage weed, insect, and disease pests that are present.

58% (51%) of responding growers automatically apply a fungicide to their soybean crop, whereas 42% (49%) apply fungicides only when diseases are present.

56% (59%) of responding producers use a sweep net or drop cloth to make weekly checks for insect presence.

88% (78%) of producers always treat for insects when their numbers reach economic thresholds.

59% (57%) of the respondents use scouting results to choose varieties for next year's crop.

Nematode Factors

54% (41%) of the respondents do not know if they have nematodes in their fields. Those growers who did know of nematode presence identified soybean cyst, reniform, and root knot nematodes as present in a significant number of fields.

Weed Factors

98% (90%) of respondents use 2 or more modes of action (MOA) when applying herbicides for weed control. 27% (26%) used 3 MOA's.

77% (71%) of growers use pre-plant or pre-emergence herbicides on more than 50% of their acres, and 66% (61%) use them on more than 75% of their acres.

68% (67%) of responding producers who apply harvest aids or desiccants do so to enhance early harvest. 19% (24%) do not apply harvest aids to any of their soybean acres.

Production Recommendations

87% (86%) of producers who responded are comfortable or very comfortable with recommendations made by agricultural retailers.

Ag Retailers (71% and 74%), MSU-Extension (61% and 66%), Crop Consultants (70% and 64%), and Field Trials (63% both years) are significant sources of information used in making soybean production decisions.

Over half of the responders stated that they need more information on soil fertility (60% both years) and weed management (61% and 56%). The survey respondents indicated a need for more

information on disease management (40% and 32%) and irrigation efficiency (37% and 35%).

General Conclusions

90% (64%) of responding producers rotate soybean and corn on an annual basis. Thus, a concerted effort should be directed toward developing the knowledge needed to properly manage this widely-used production system.

About two-thirds of responding producers plant in rows that can be categorized as less than wide (rows <30-in. wide or twin rows). However, a significant number of producers still plant soybeans on wide rows, and the reasons for this are not apparent.

Only about two-thirds of producers are aware of the amount of nutrients removed from the soil by a soybean crop. The awareness of this as an important factor for continued high yields should be increased through extension and industry education efforts.

Because a large percentage of producers are unaware of possible nematode presence in their fields, an increased education effort about sampling soil for nematodes is warranted. This is especially true since disease surveys indicate that SCN is the soybean pest responsible for the greatest yield loss in Midsouth soybean production systems.

The survey results indicate that increased use of tools to improve irrigation efficiency is occurring, but the adoption percentage is still below 50%. Thus, outreach and education efforts must be increased to ensure that information about all irrigation management tools that can increase irrigation efficiency and enhance knowledge of crop water use by irrigated soybeans is available to and adopted by every irrigator.

Greater than 75% of responding producers use timely and accurate scouting to monitor insect and disease pests in soybean.

The vast majority of respondents use economic thresholds to determine if and when to treat for insect infestations. This indicates that continued research is needed to ensure that threshold numbers are adequate and accurate for the various soybean production systems (e.g. irrigated vs. dryland, early-planted vs. late-planted/doublecropped, monocropped vs. rotated) in Mississippi.

Producers have obviously taken heed about the importance of weeds developing resistance to herbicides as indicated by the large majority of respondents who use more than one herbicide mode of action, pre-plant and pre-emergence herbicides, and the full labeled rate of herbicides. Proper use and application of all these factors are recommended to prevent or delay herbicide resistance in weeds.

It is perceived from these results that the use of multiple modes of action in pesticide applications likely pertains mostly to herbicides. Producers must continually be reminded of the importance of this factor in the application of insecticides and fungicides as well. This is especially so since a large percentage of soybean acres are treated for insects each year, and a large percentage of growers automatically apply a fungicide to their soybean crop.

It is obvious that Mississippi soybean producers have a high regard for the information provided and recommendations made by agricultural retailers and crop consultants/advisers. It is thus imperative that the developers of new information and technology engage these information suppliers in educational opportunities that will transfer this new information to them.

As with all surveys, this survey provides only a sampling of production practices and information sources used by Mississippi soybean producers. However, these results do provide a glimpse into what is being done to produce soybeans in the state, and can provide agricultural practitioners with a clue as to what needs more attention and increased educational opportunities.

I personally thank each of the 280 respondents who took the time to complete and return the survey. Hopefully, through this blog and other summaries that will come from the survey results, you can see the value of the information you provided and how it can be used to provide insight into what Mississippi soybean producers are now doing or maybe should be doing to continue the trend of increasing soybean yields in the state.

Composed by Larry G. Heatherly, Jan. 2017,
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2016

Best Practices Study

Study Overview

The Mississippi Soybean Promotion Board is focused on supporting the needs of farmers and the soy industry. This study was conducted with Mississippi soybean farmers to identify specific practices and trends that will assist all growers.

Study Methodology

A four-page, 33-question survey was mailed to 1,900 farmers identified as having soybean crop production in 2015. The survey included a participation incentive of two (2) Walmart $500 gift cards. Winners were randomly drawn from all completed survey participants.

The mail distribution was conducted on October 27, 2016 and responses was accepted through December 9, 2016.

Study Participation

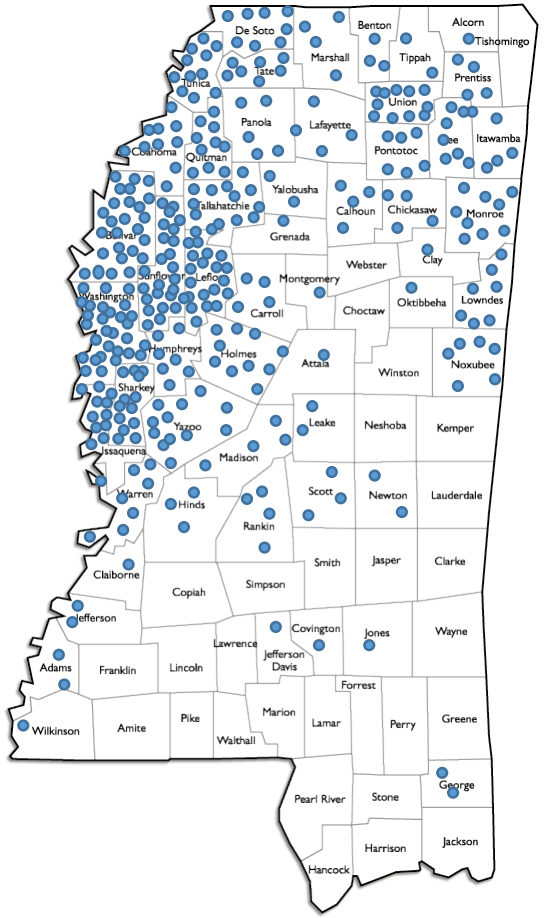
A total of 304 surveys were returned. Twenty-four surveys were not recorded (retired, deceased and/or no longer active in farming) for a net return of 280 or 14.7%.

County Location of Participants

Participants represent 54 Counties in Mississippi.

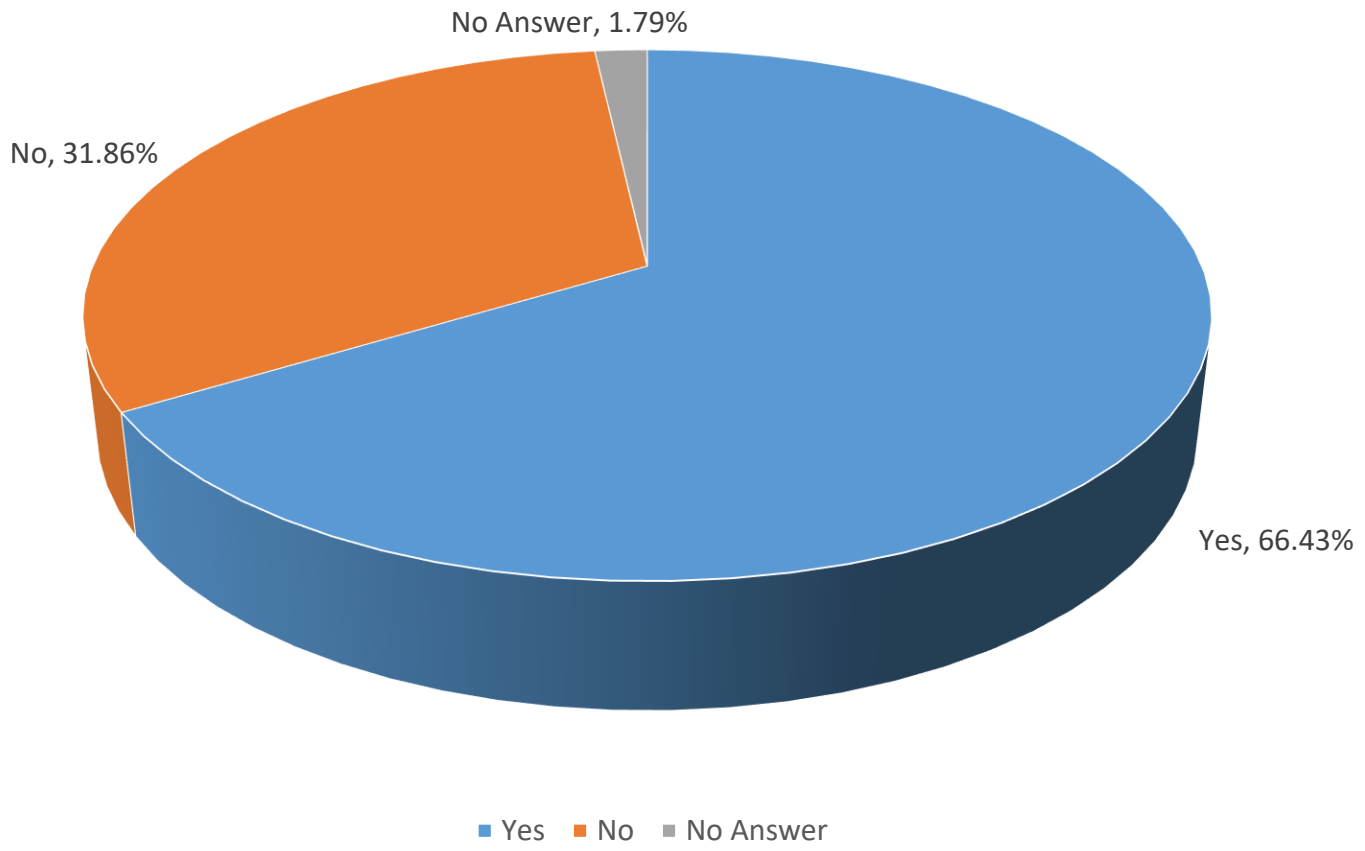
Top Counties Include:

- Bolivar
- Leflore
- Sunflower
- Washington



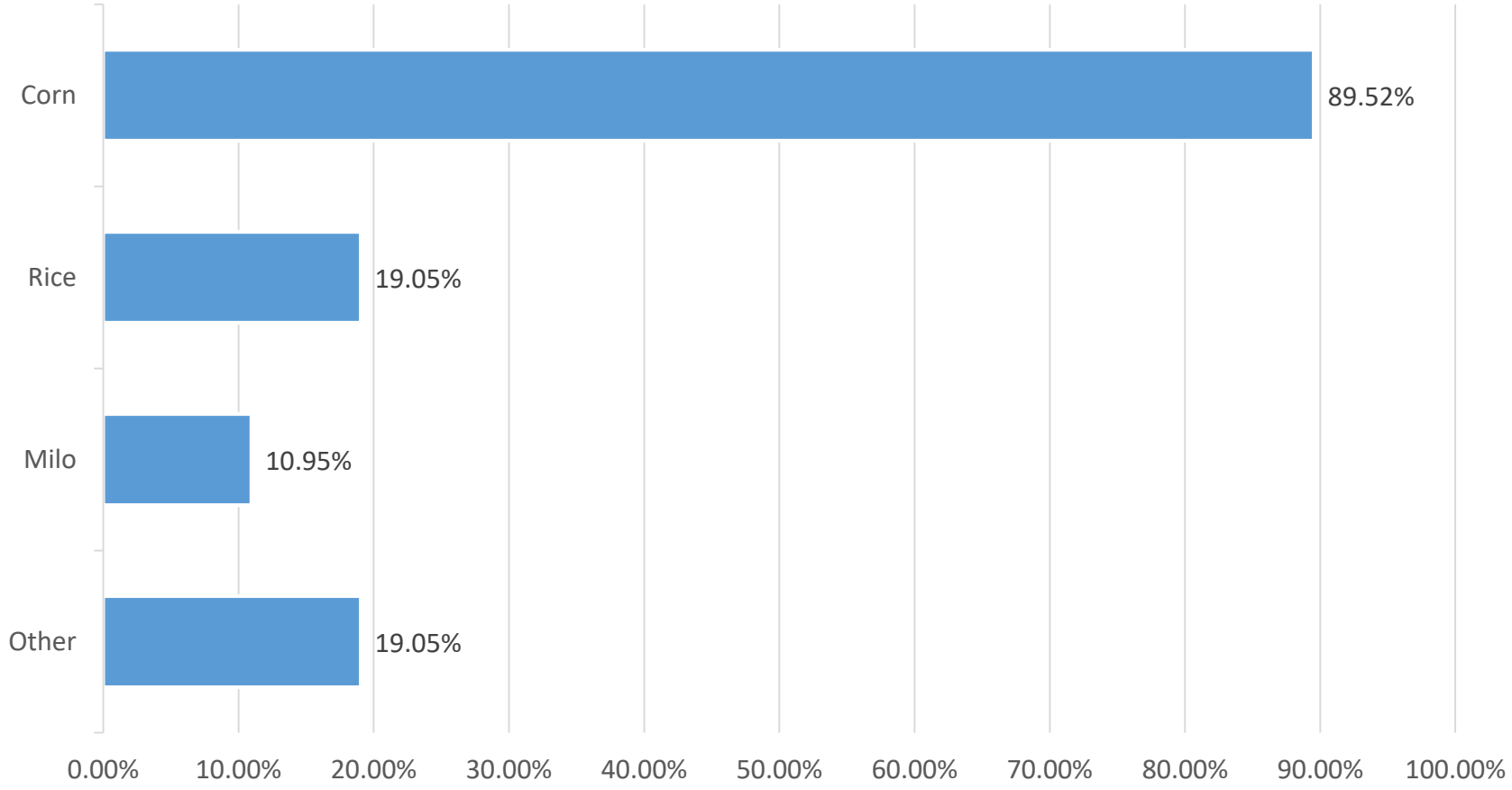
Annual Crop Rotation

Sixty-six percent of participants rotate crops on an annual basis.



Crops Rotated With Soybeans (n=210)

Nearly 90 percent of rotating participants rotate corn with soybeans.



Other Crops Include:

- Wheat
- Cotton
- Peanuts
- Millet

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Q3: If you do rotate crops annually, what crop do you rotate with soybeans?

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Soybean Row Width

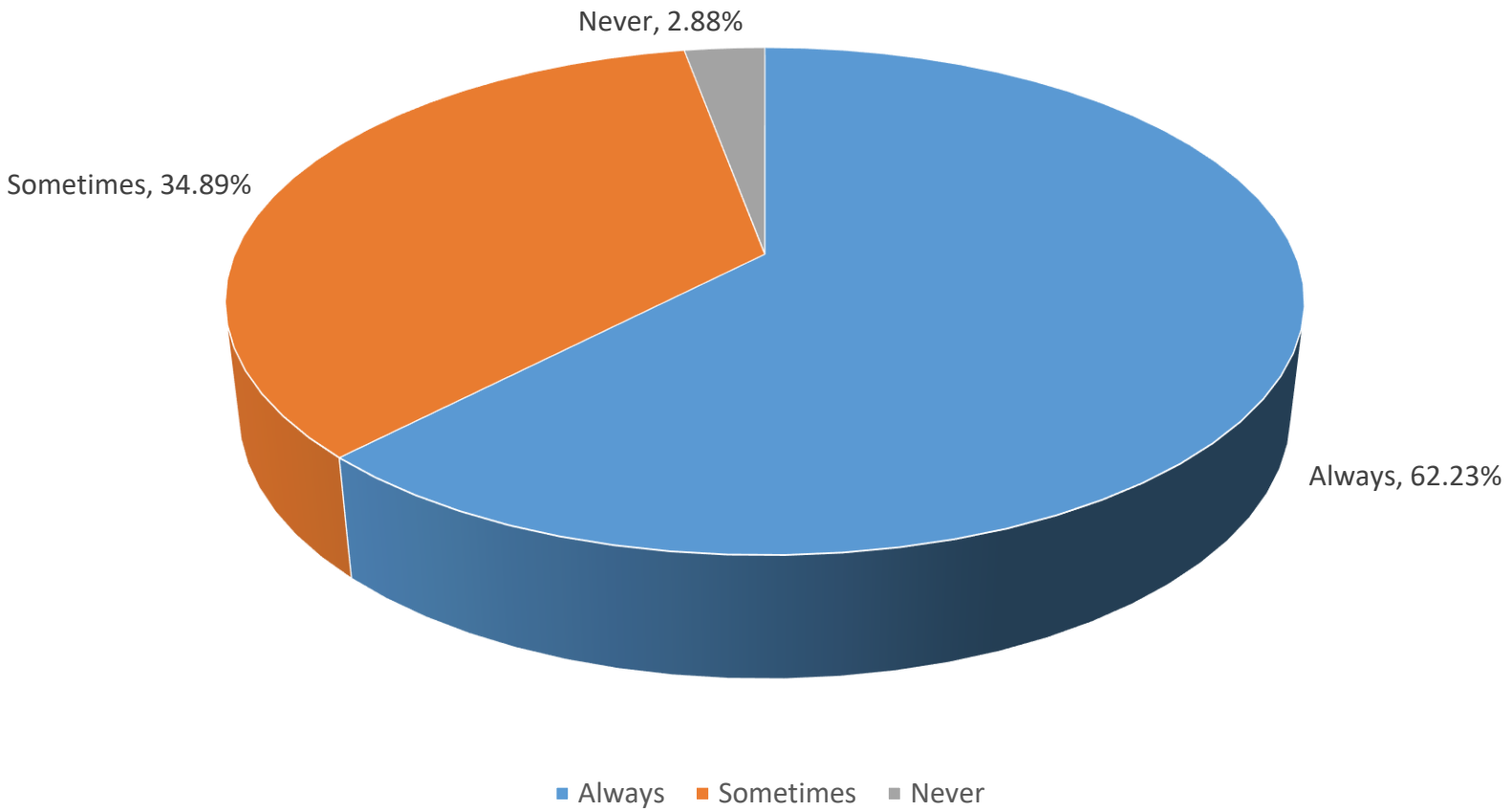
Most popular row widths include 15-inch, 38-inch twin, and 30+ inch rows.

Row Width	Percent of Total
15 inch	25.00%
38-inch twin row	24.26%
30+ inch	23.16%
38-inch single row	19.12%
20 inch	9.93%
Other (includes 30-inch twin, 40-inch twin 7-inch, 18-inch, 40-inch, 25-inch, 36-inch, 19-inch, 10-inch, 7.5-inch and 8-inch)	9.93%

Q4: What row width do you typically use when planting soybeans?

Soil Testing

Sixty-two percent of participants soil test at least every 3 years.



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Q5: Do you soul test your soybean fields at least every 3 years?

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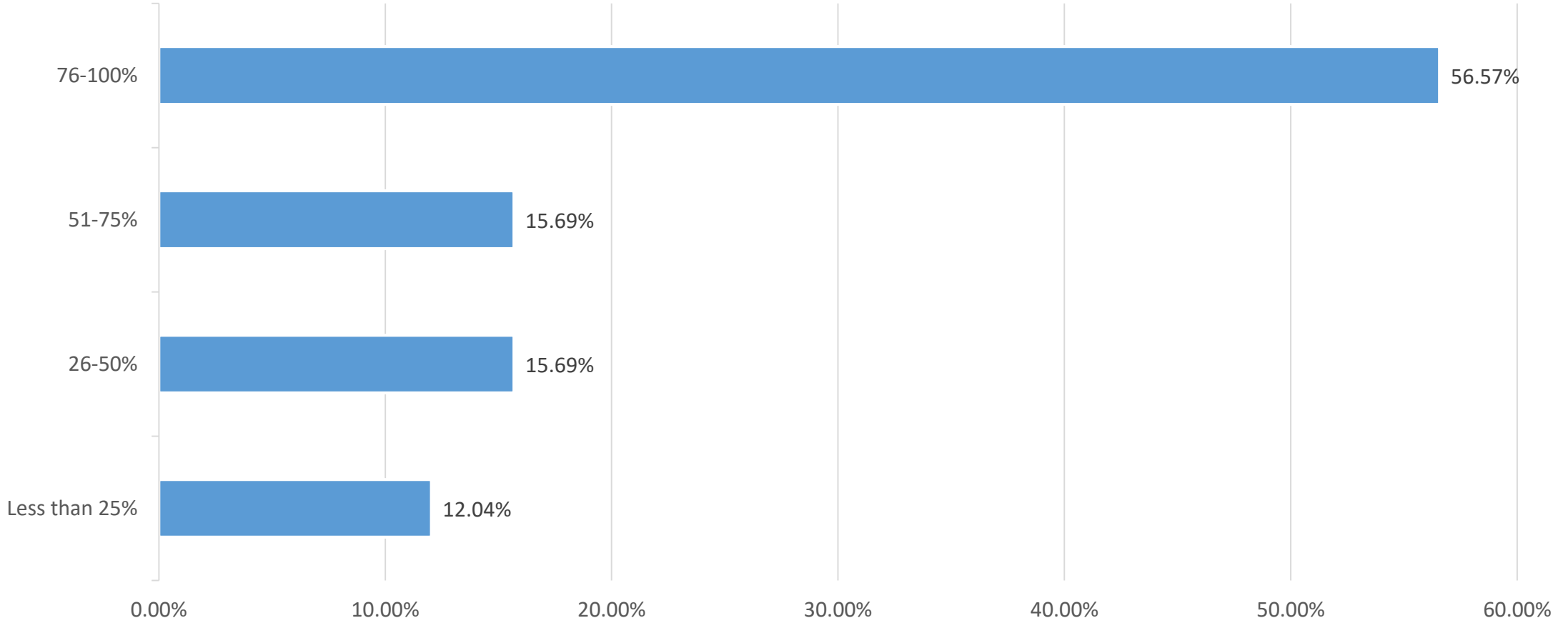
Soil Sampling Acreage (n=274)

Fifty-seven percent of participants soil test on 76 to 100 percent of acres.



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Q6: On what percentage of your soybean acres do you take soil samples?

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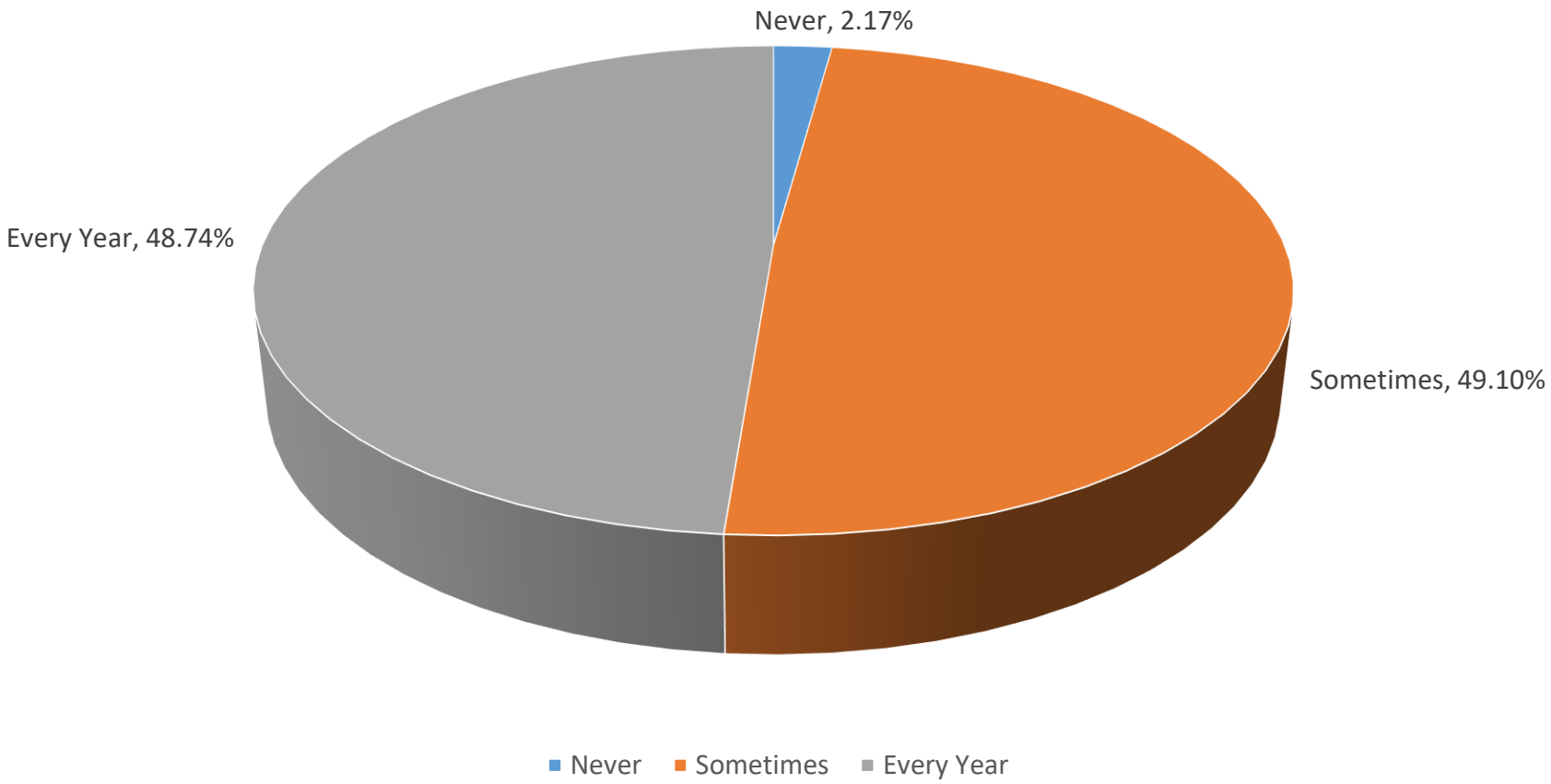
Knowledge of Soil pH

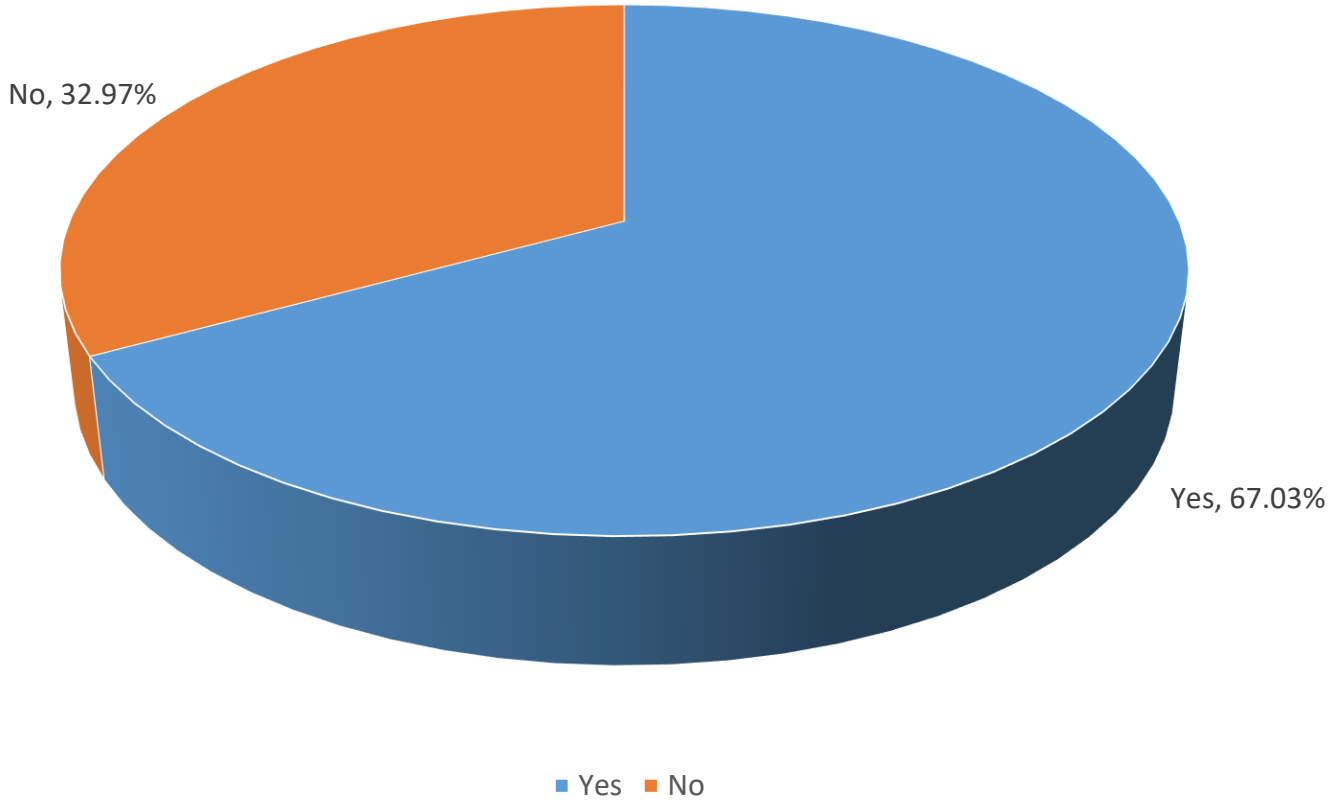
Ninety-eight percent of participants know their soil pH either every year or sometimes.



Q7: Do you know your soil pH?

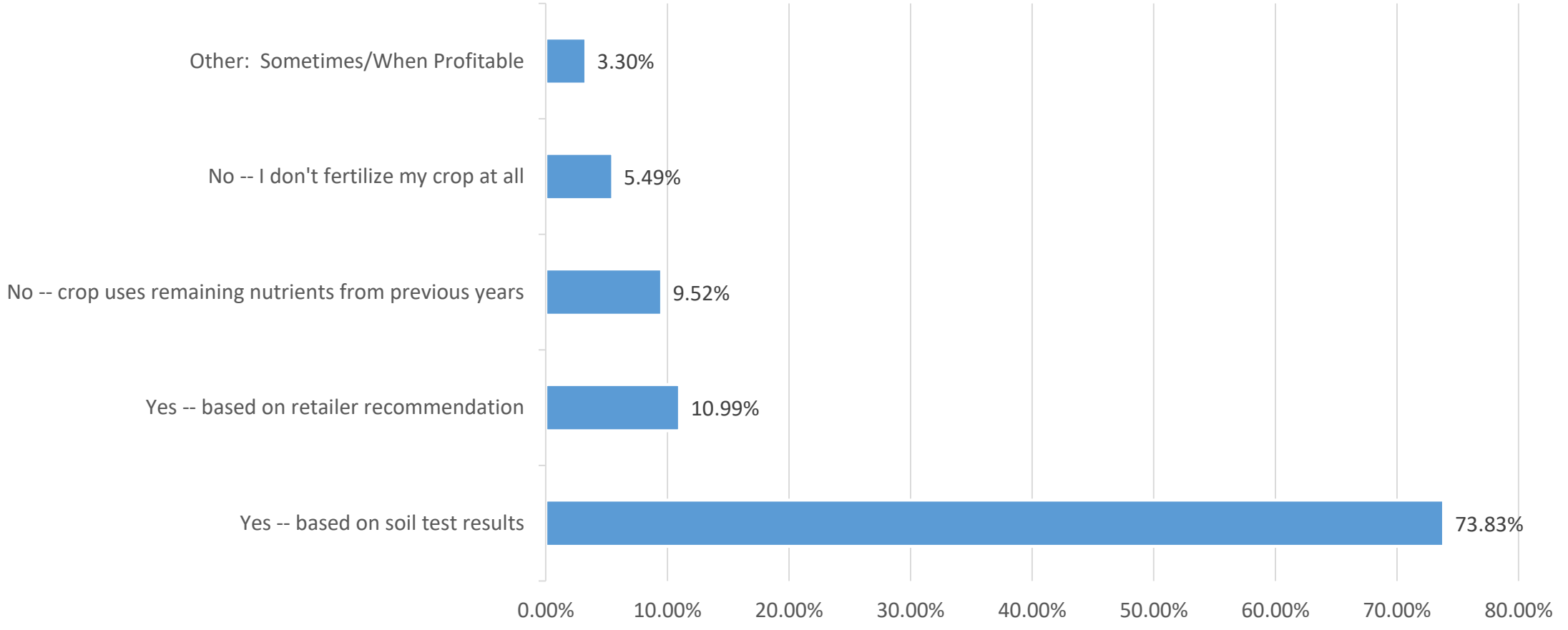
Knowledge of Nutrient Removal

Sixty-seven percent of participants are aware of nutrients removed in each bushel of harvested soybean grain.



Soybean Field Fertilization

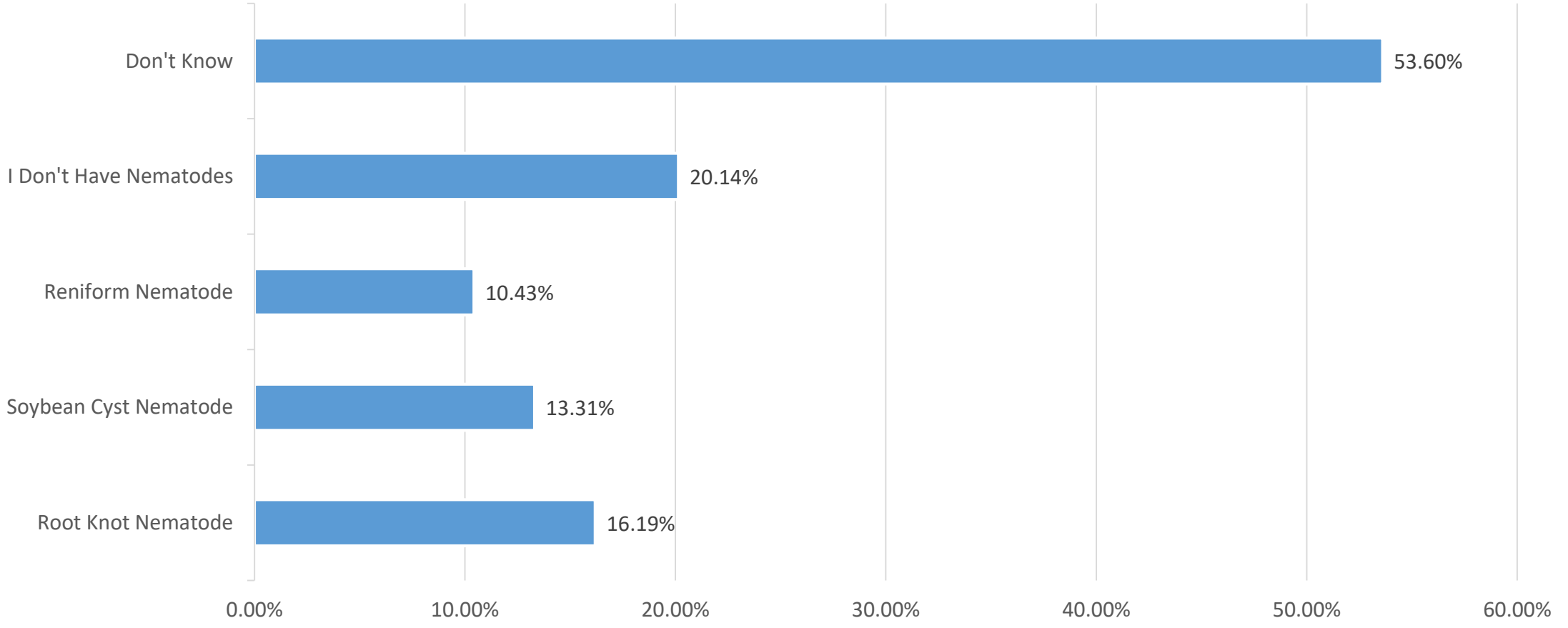
Seventy-four percent of participants fertilize based on soil test results.



Q9: Do you fertilize your soybean fields before planting?

Nematode Presence

Fifty-four percent of respondents don't know if they have nematodes present in their fields.



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Q10: What nematodes are present in your fields?

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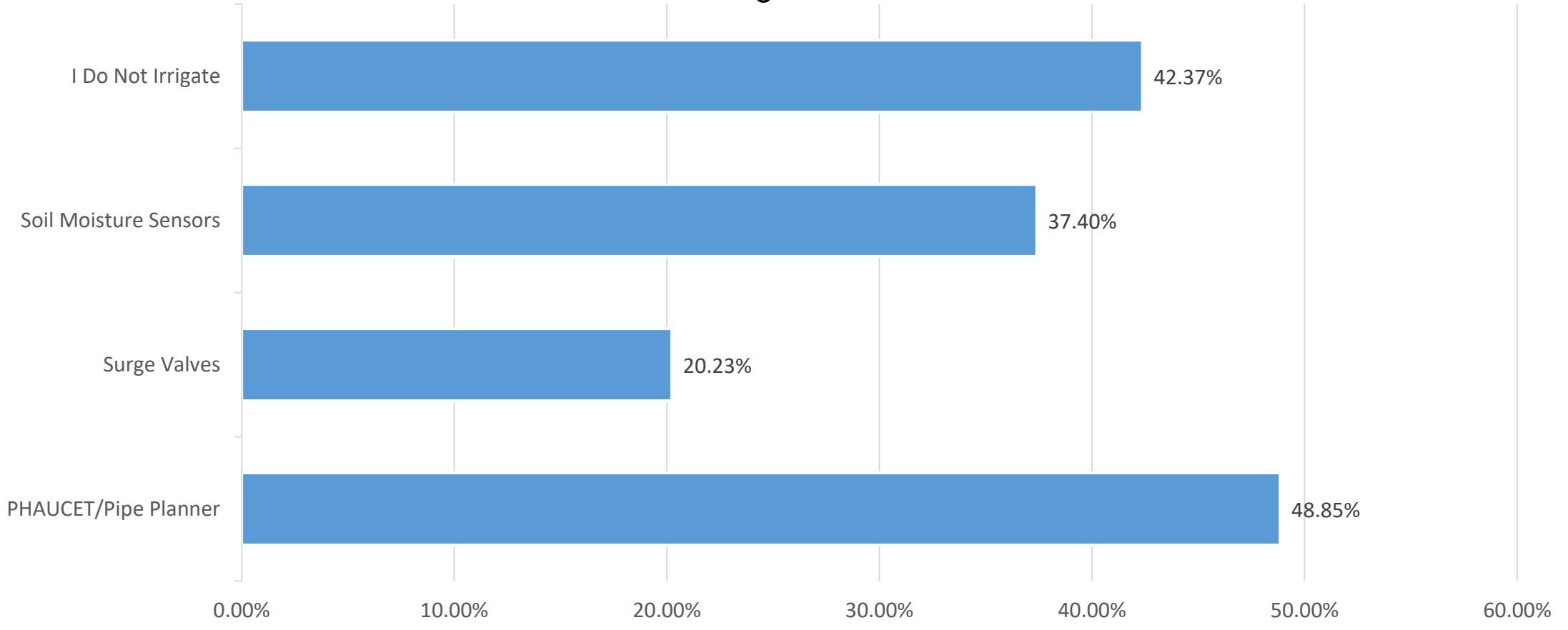
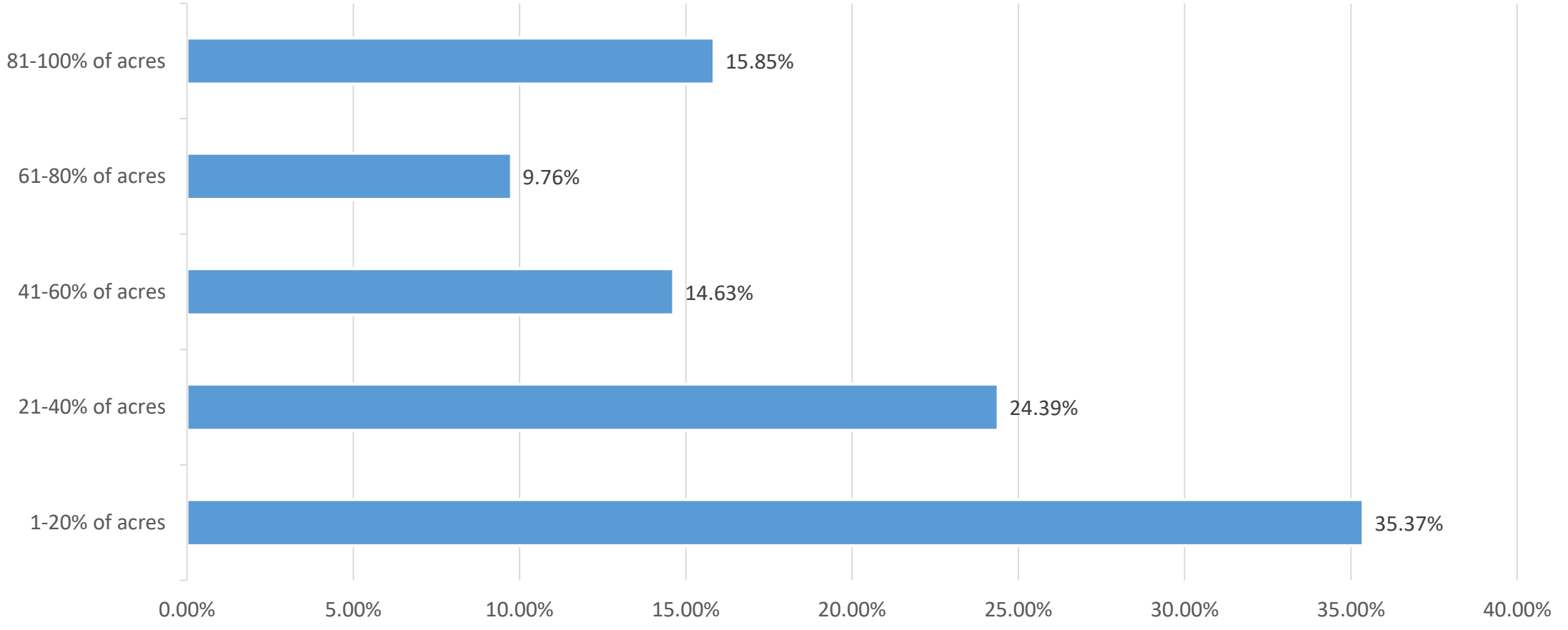
Irrigation

Forty-nine percent of participants use PHAUCET/Pipe Planner while another 42 percent do not irrigate at all.



Irrigation Monitoring (n=164)

Thirty-five percent of participants monitor water use on only 1 to 20% of acres.



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Q12: If you irrigate, on what percentage of acres do you monitor your water use with well or flow meters?

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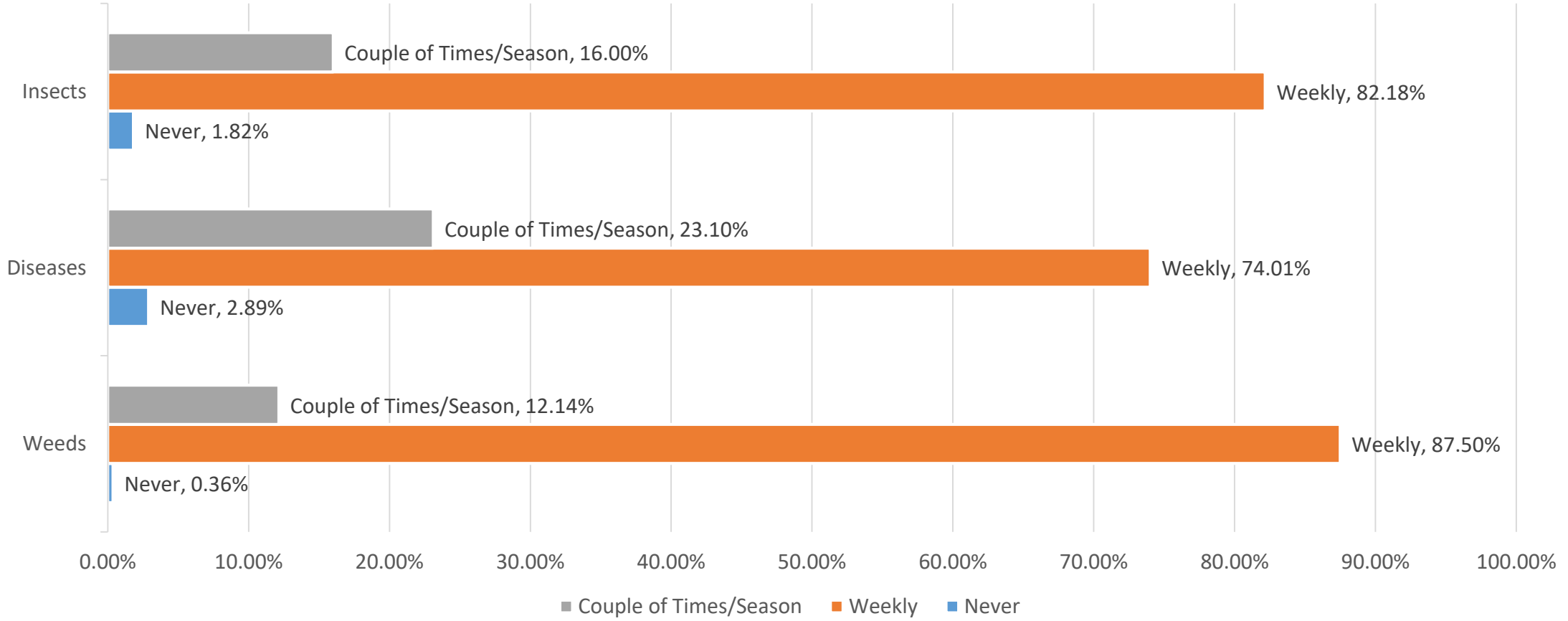
Frequency of Field Scouting

.The majority of participants scout fields on a weekly basis for weeds, diseases and insects.



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Q13: How often do you or someone on behalf of your farm, scout your fields to check for the presence of insects, weeds and diseases during the growing season?

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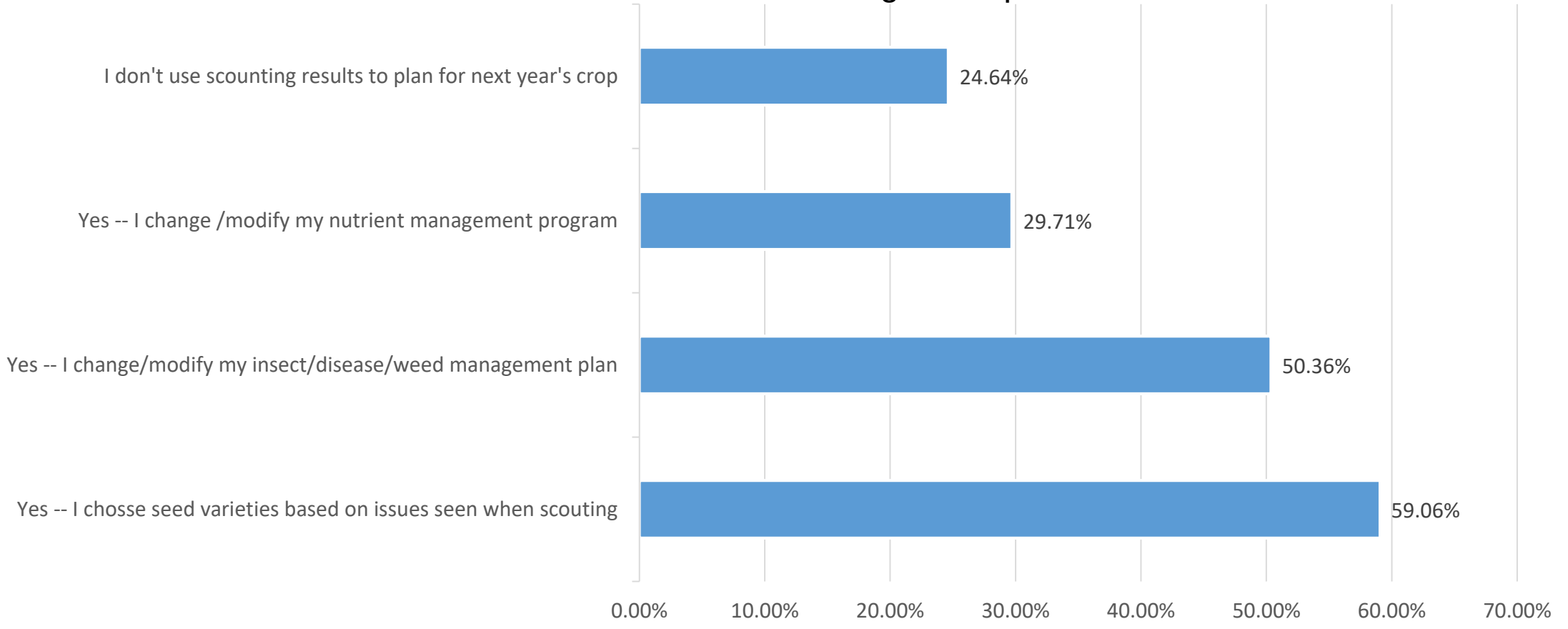
Usage of Field Scouting for Crop Planning

Over half of participants use scouting to select seed varieties and to modify insect/disease/weed management plans.



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Q14: Do you use scouting results to plan for next year's crop (Check all that apply)?

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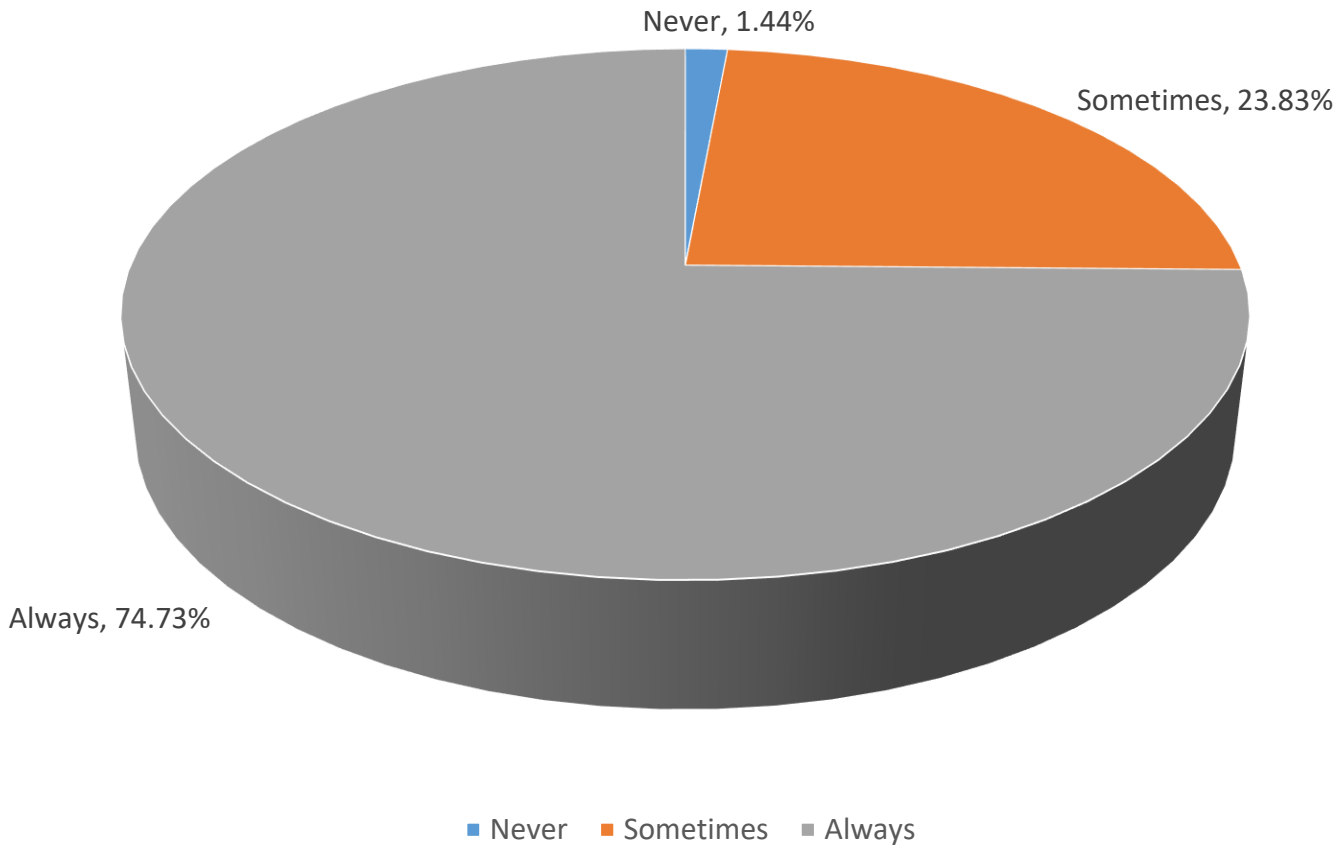
Scouting Protocol

Seventy-five percent of participants actually walk the fields when scouting.



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Q15: When scouting, do you, or someone on behalf of your farm, actually walk the fields?

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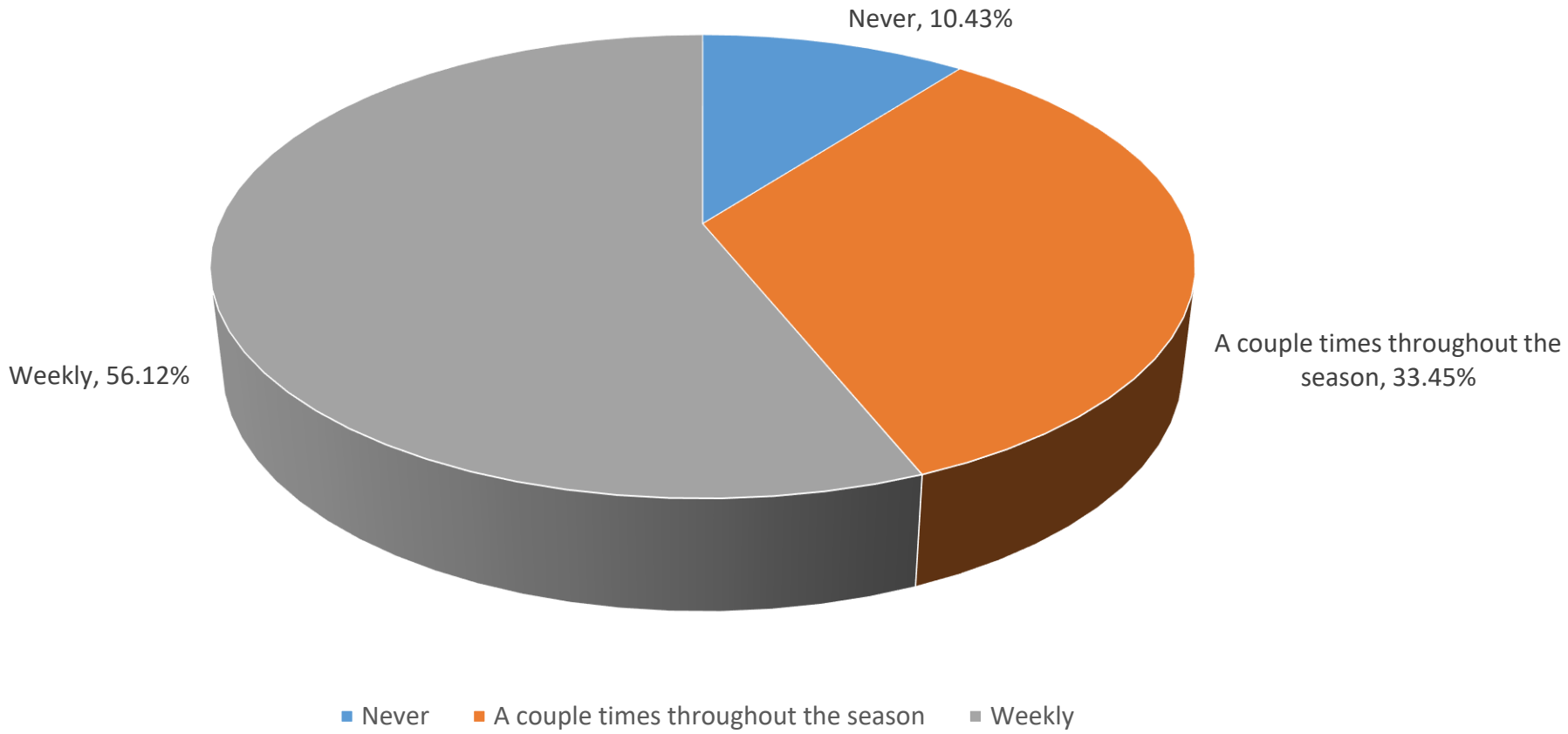
Use of Sweep Net/Drop Cloth for Insect Measurement

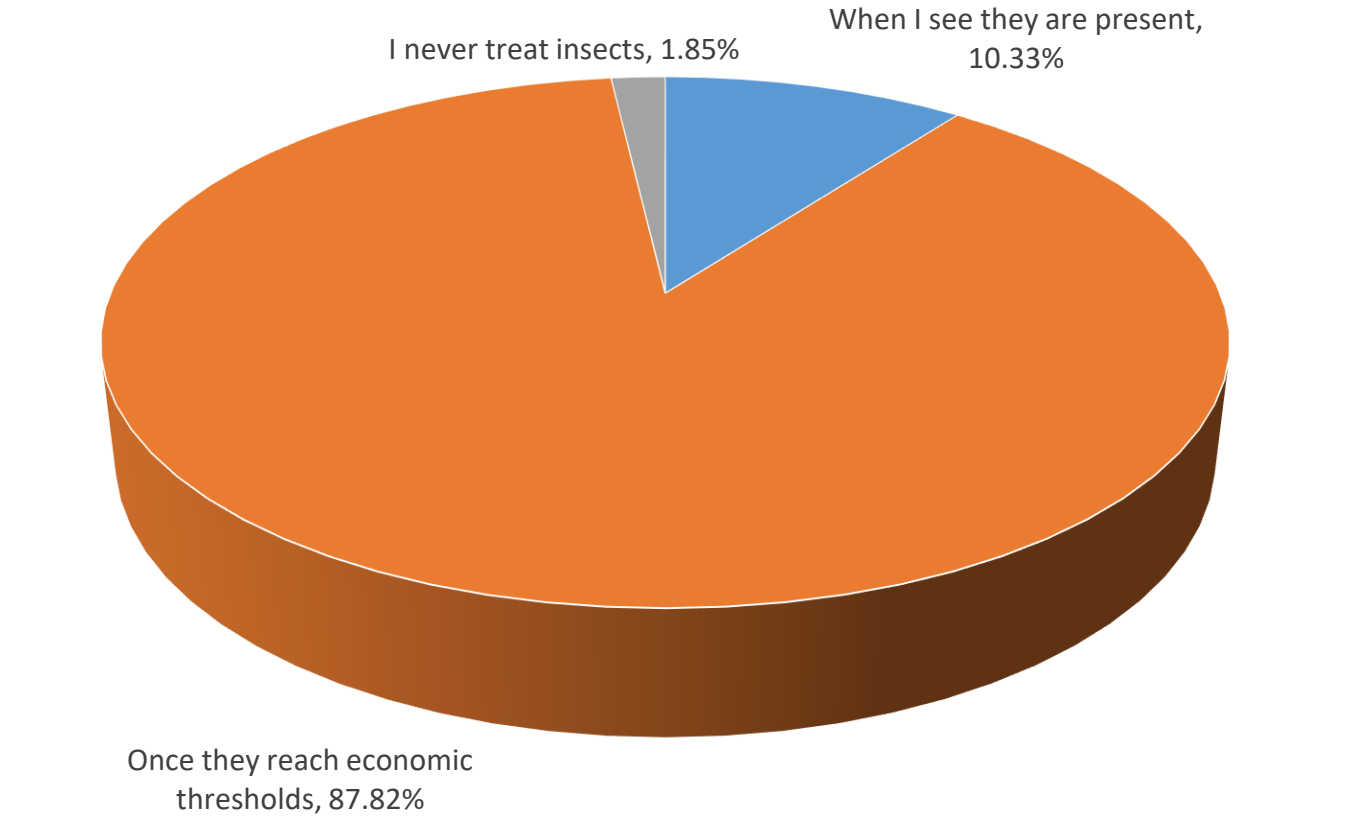
Fifty-six percent of participants use a sweep net/drop cloth to measure the amount of insects on a weekly basis.



Q16: Throughout the growing season, how often do you, or someone on behalf of your farm, use a sweep net or drop cloth to measure the amount of insects in a field?

Insect Treatment Scheduling

Eighty-nine percent of participants treat for insects when they reach economic thresholds.



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Q17: When do you treat for insects?

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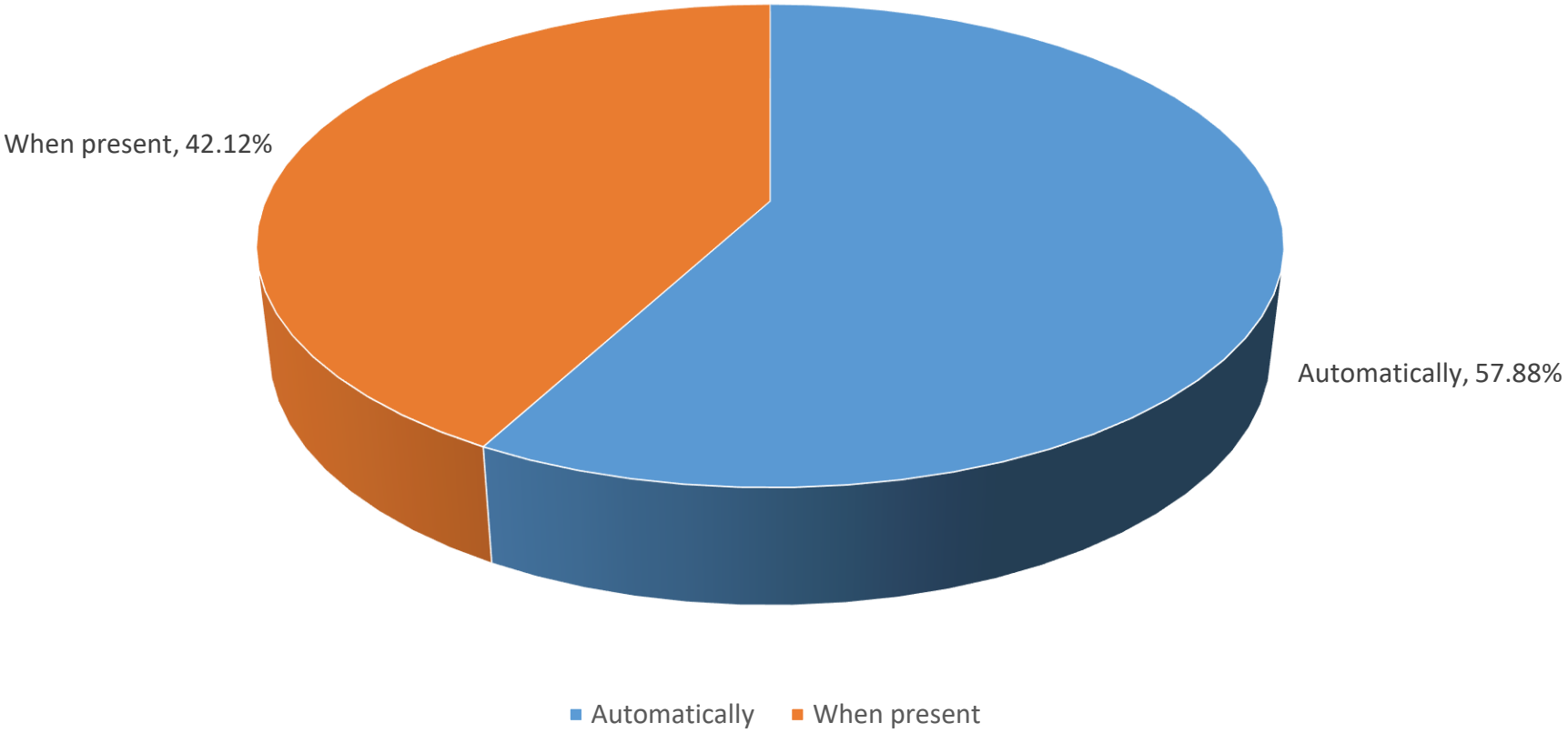
Fungicide Application

Fifty-eight percent of participants are applying fungicides automatically.



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Q18: Are you applying fungicides automatically, or only when diseases are present?

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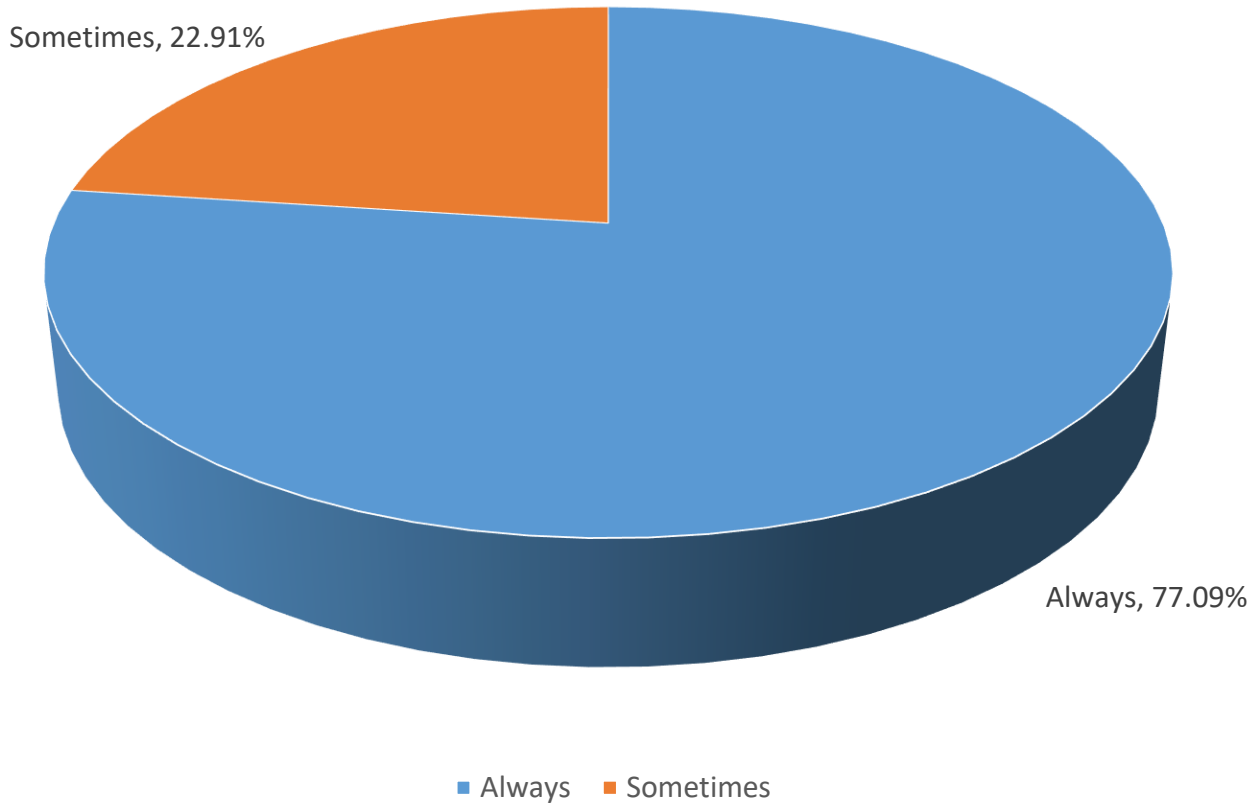
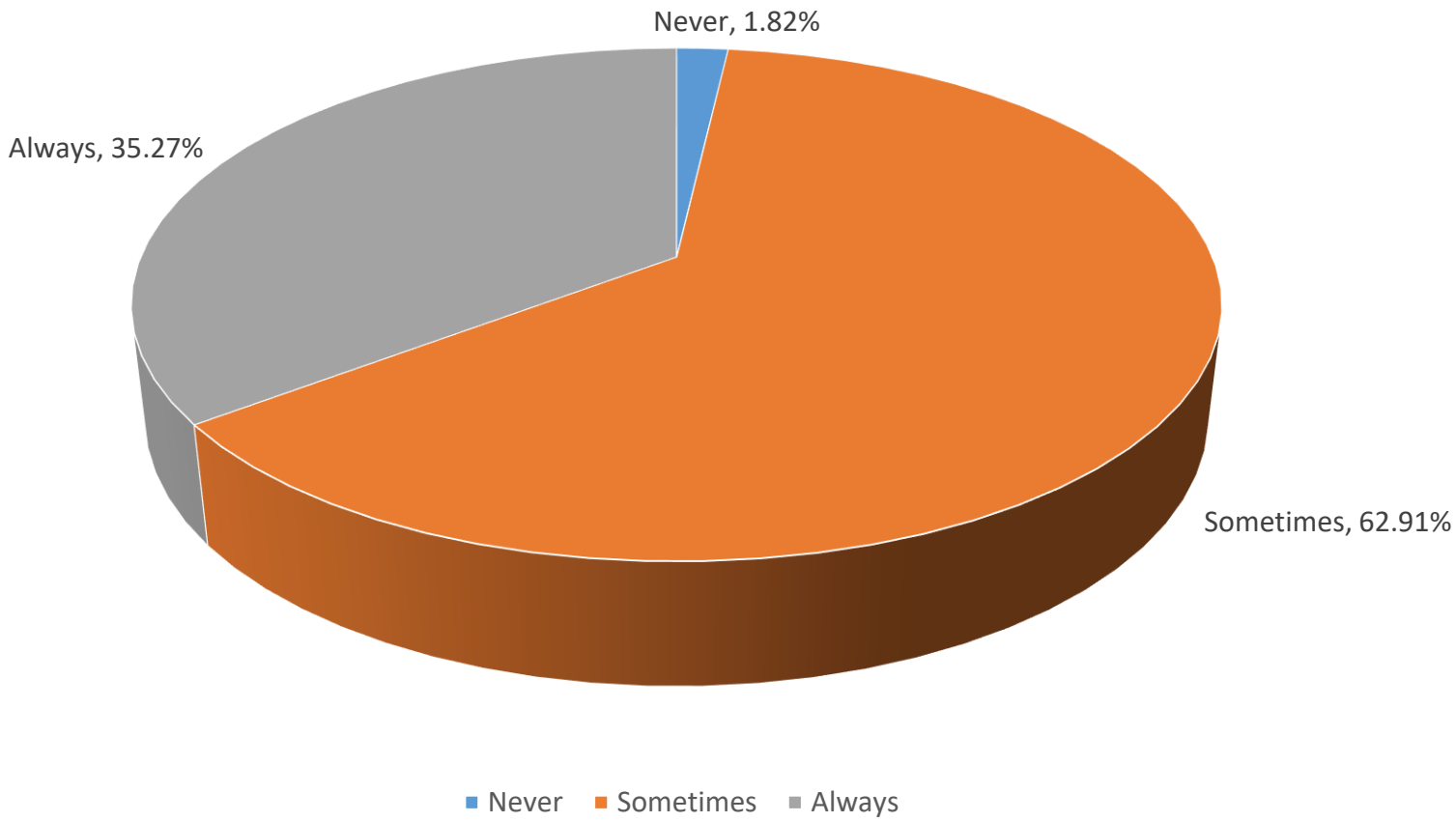
Fungicide/Insecticide/Herbicide Application Rates

Seventy-seven percent of participants always use the full labeled rate when applying fungicides, insecticides or herbicides.



Fungicide/Insecticide/Herbicide Modes of Action

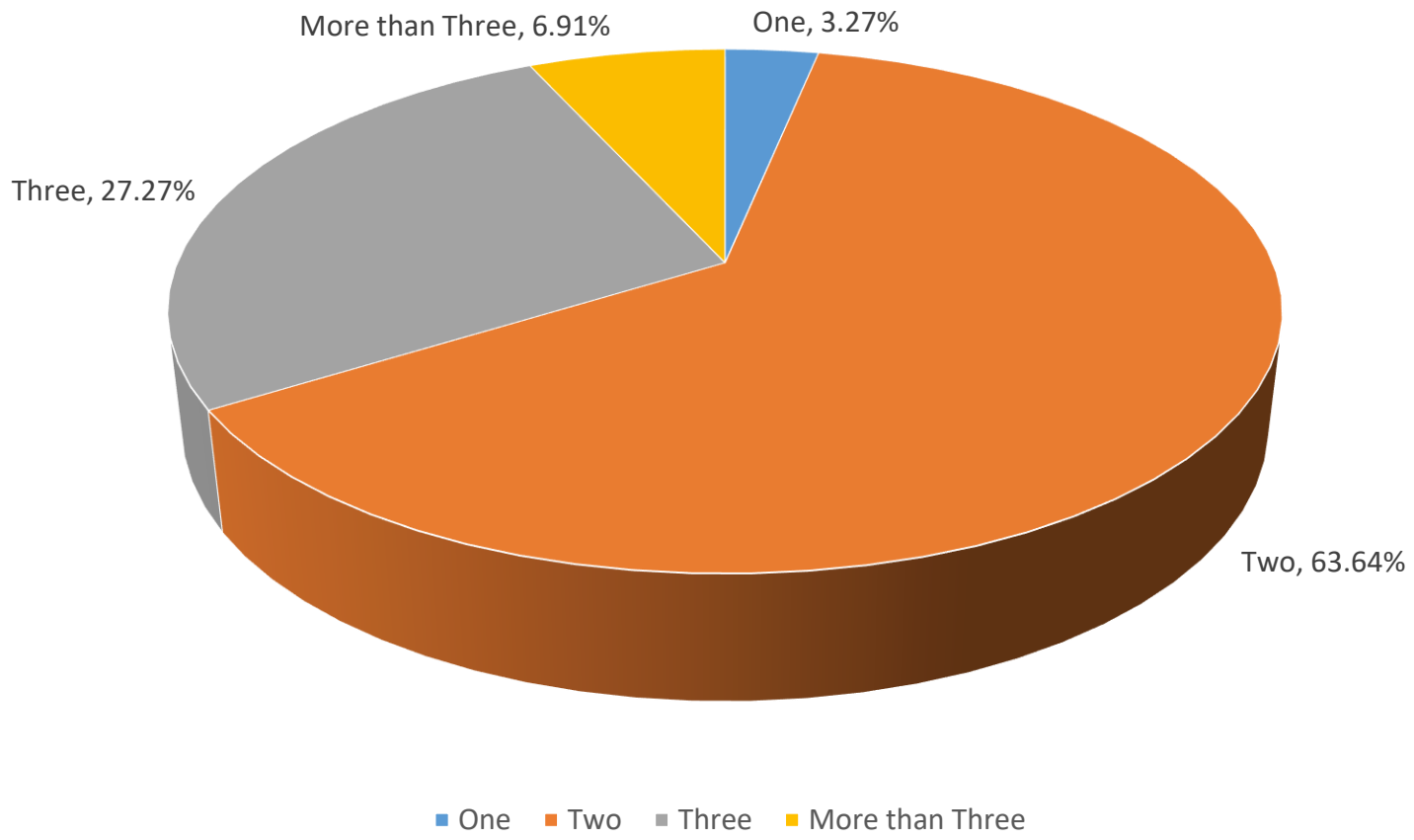
Thirty-five percent of participants apply multiple modes of action.



Q20: When applying fungicides, insecticides or herbicides, do you use multiple modes of action?

Herbicide Modes of Action

Sixty-four percent of participants apply herbicides with at least two modes of action.



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Q21: How many herbicide modes and sites of action do you typically use when managing weeds?

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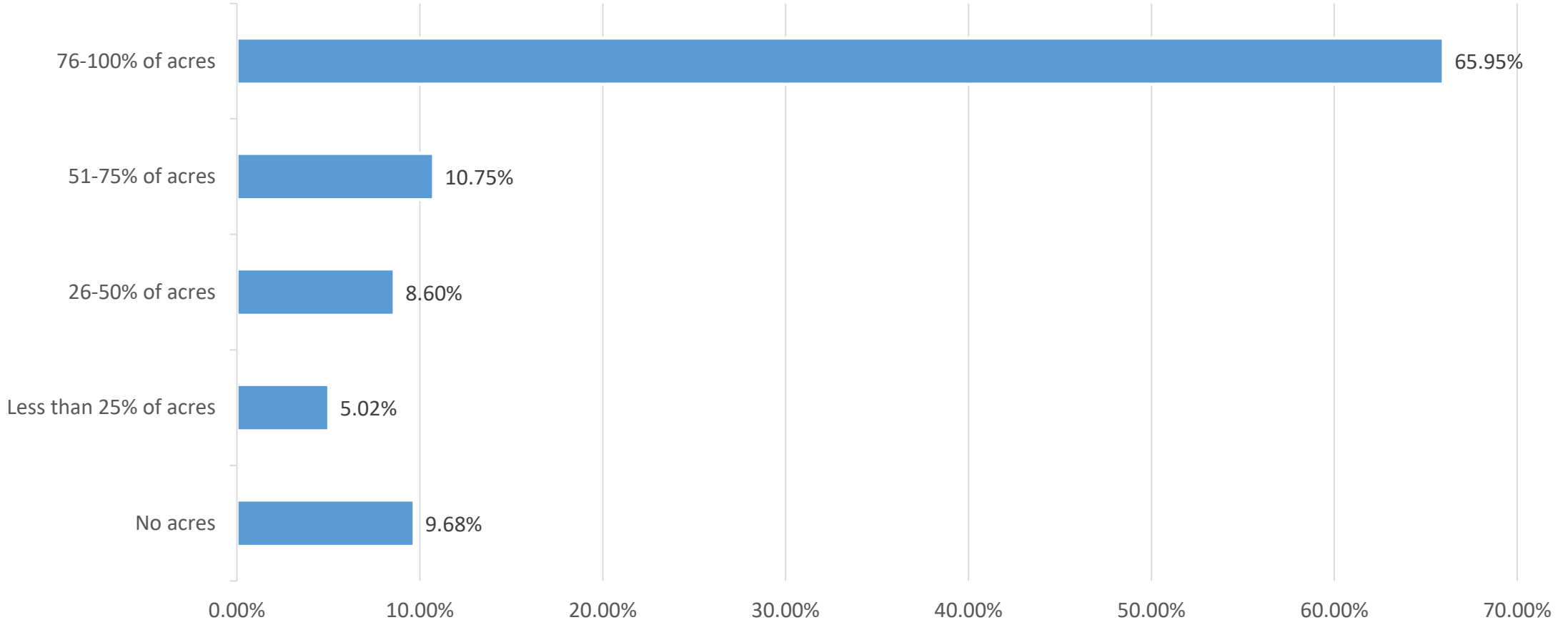
Pre-plant/Pre-emergence Herbicide Usage

Sixty-six percent of participants are applying a pre-plant/pre-emergence herbicide.



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Q22: On what percentage of your acres do you use a pre-plant or pre-emergent herbicide

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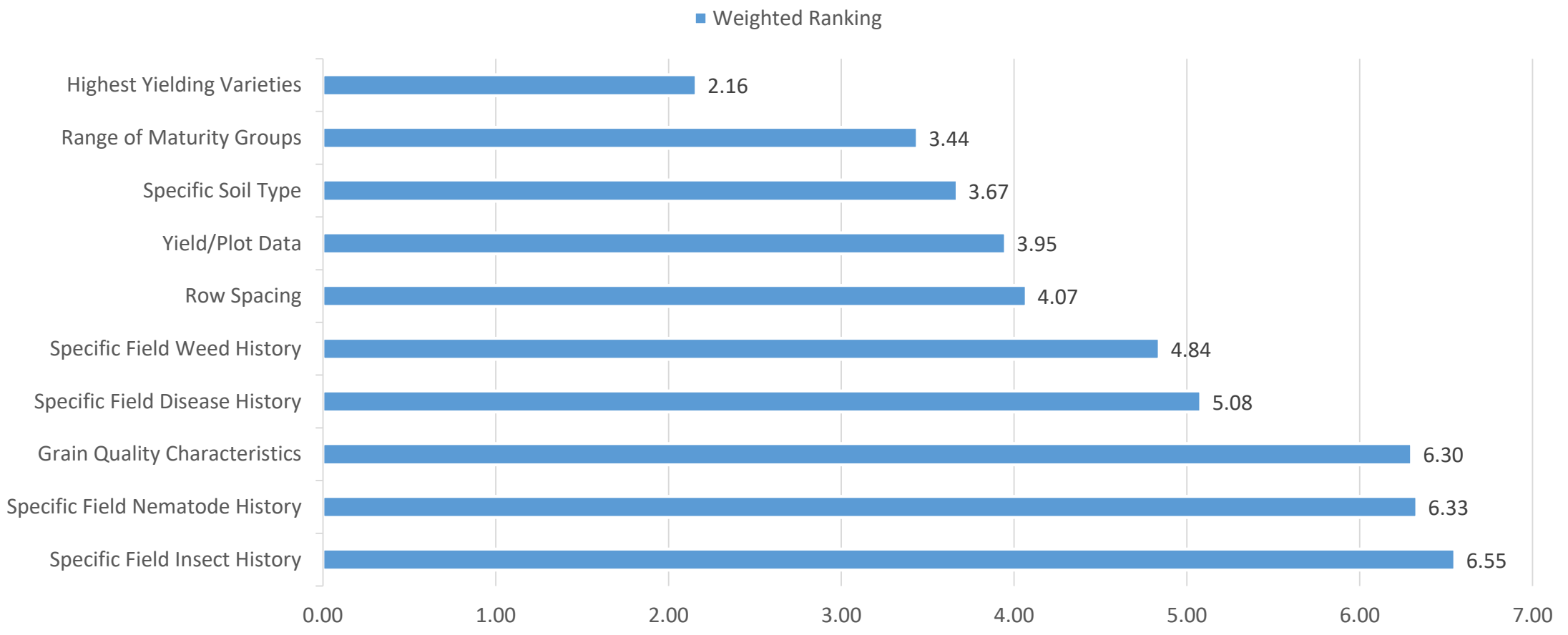
Attributes Important in Selection of Soybean Variety

Participants rank “Highest Yielding Varieties” as most important in choosing soybean varieties.



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Q23: Using the numbers from 1 to 9, please rank the following in importance when choosing soybeans varieties with “1” being “Most Important” and “9” being “Least Important” (use each number only once).

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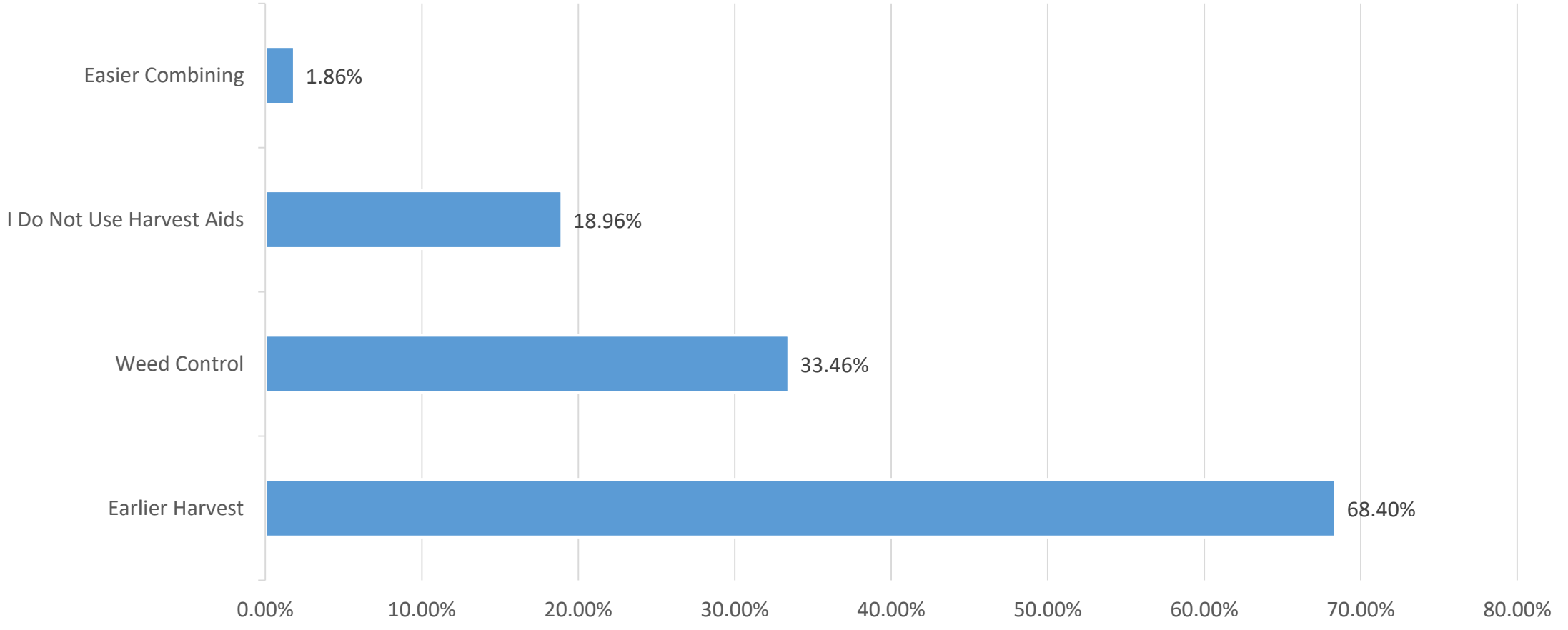
Factors for Using Harvest Aids/Desiccants

Sixty-eight percent of participants use harvest aids/desiccants for earlier harvest.



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Q24: What factors do you consider when applying harvest aids or harvest desiccants?

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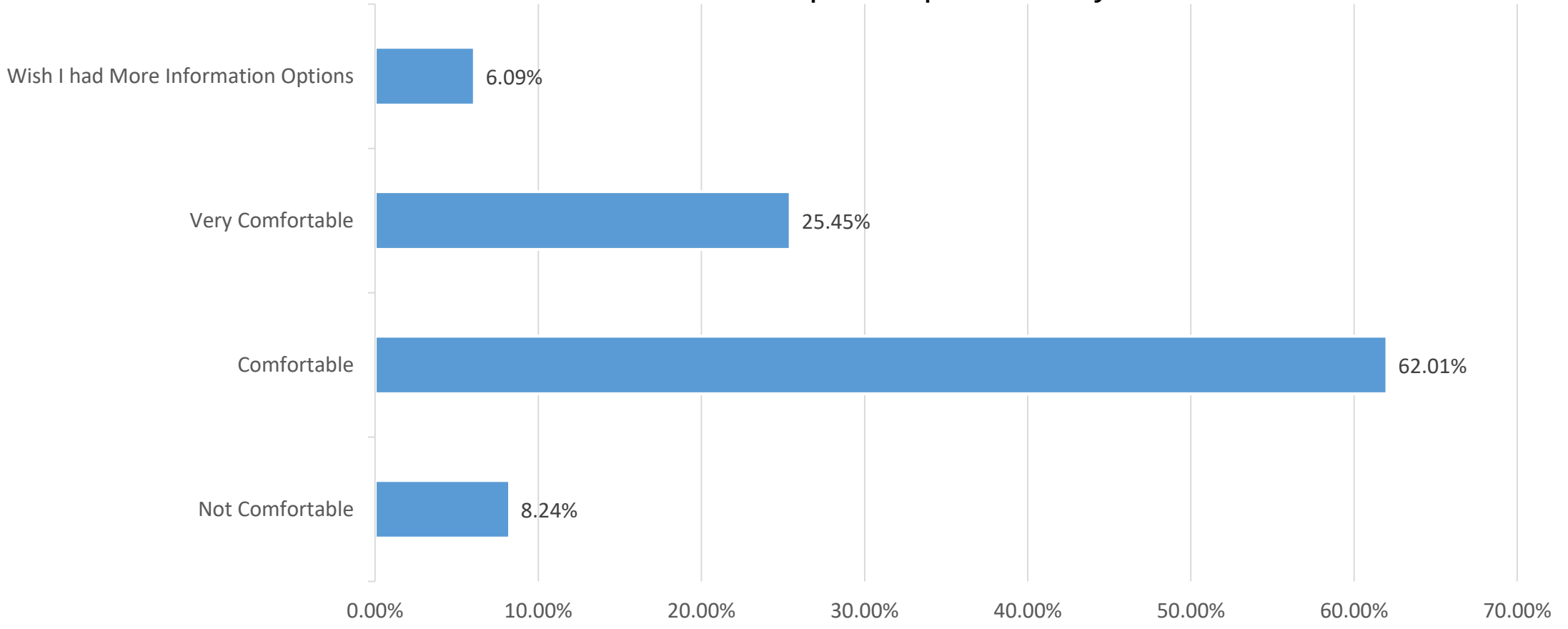
Comfort Level With Retailer Recommendations

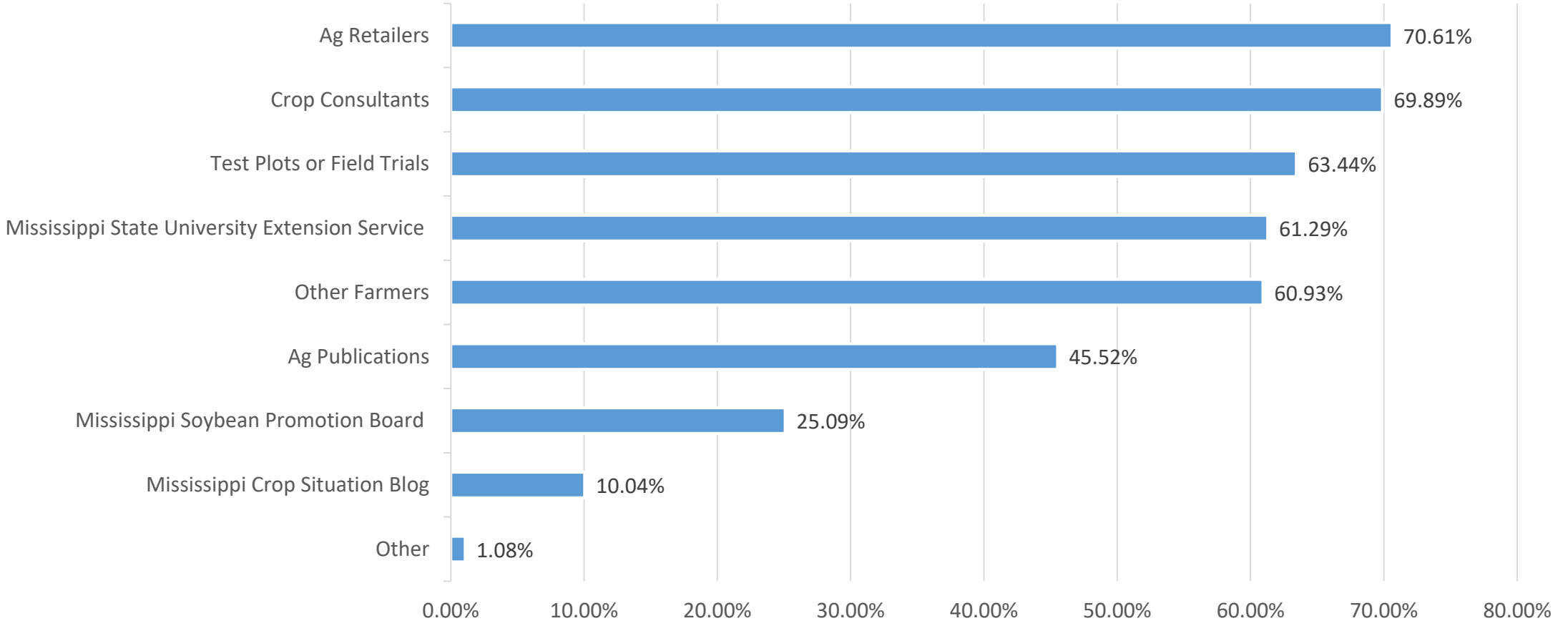
Seventy percent of participants are either “comfortable” or “very comfortable” with their ag retailers recommendations to help them produce soybeans.



Q25: How comfortable are you with the recommendations you receive from ag retailers to help you produce soybeans?

Sources for Soybean Production Information

Participants seek soybean production information from a variety of sources.



Q26: What source do you use to assist you in making soybean production decisions? (Please check all that apply)

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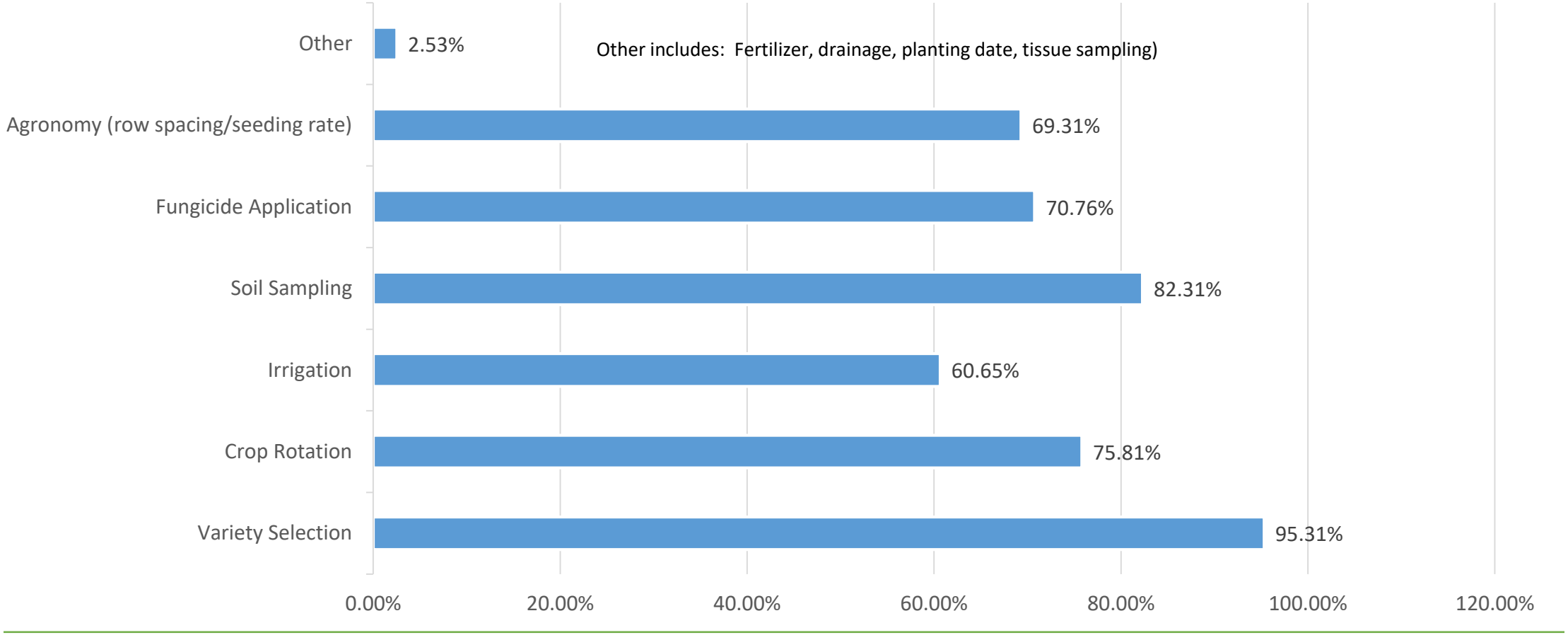
Methods Used to Increase Soybean Yields

Ninety-five percent of participants are selecting varieties to increase soybean yields.



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Q27: What things are you doing on your farm to increase soybean yields? (Check all that apply)

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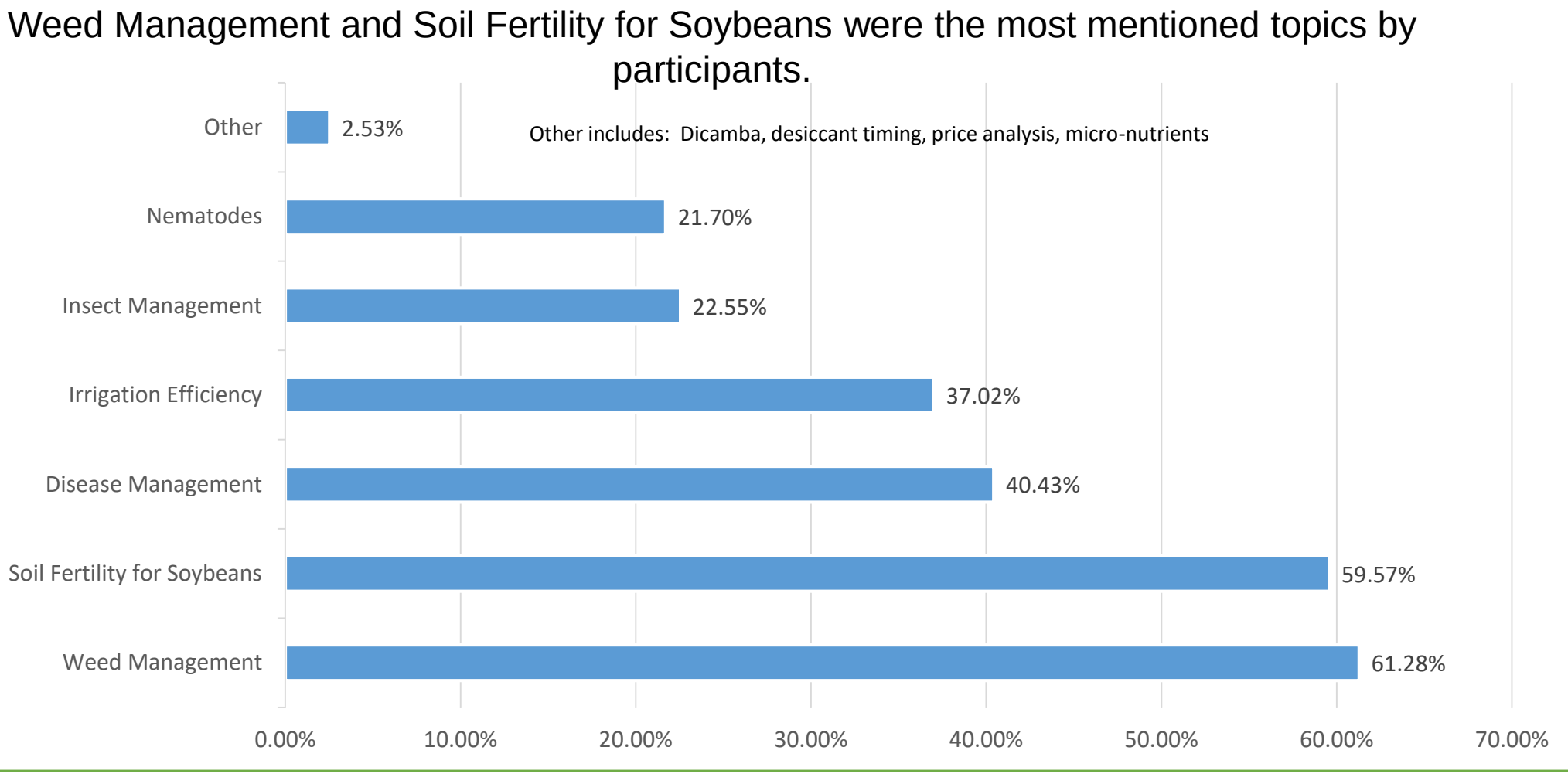
Top Soybean Production Issues

Weed control, particularly Pig Weed resistance is participants' top production issue.

Top Mentions – In Ranking Order:

1. Weed Control
2. Low Yield
3. Weather (drought conditions)
4. Input Costs
5. Drainage
6. Irrigation
7. Variety Selection
8. Wildlife
9. Market Price
10. Planting Dates
11. Nutrients
12. Seed Quality
13. Seed Populations
14. Maturity Dates
15. Fertility
16. Standability
17. Green Stem
18. Soil Type

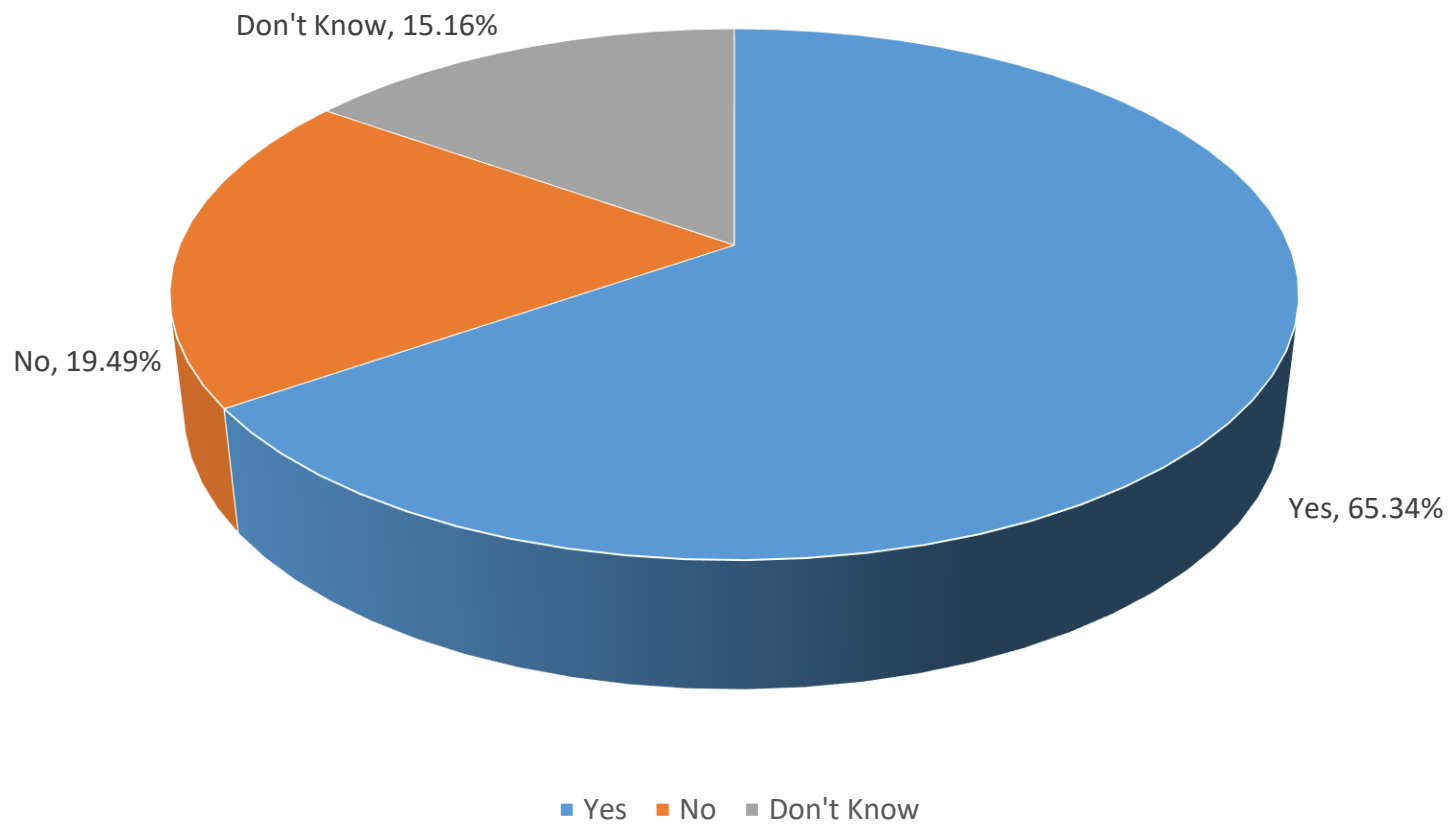
More Information Topics



Q29: Is there a topic which you wish you had more information on? (Check all that apply)

Recall of MSPB Information

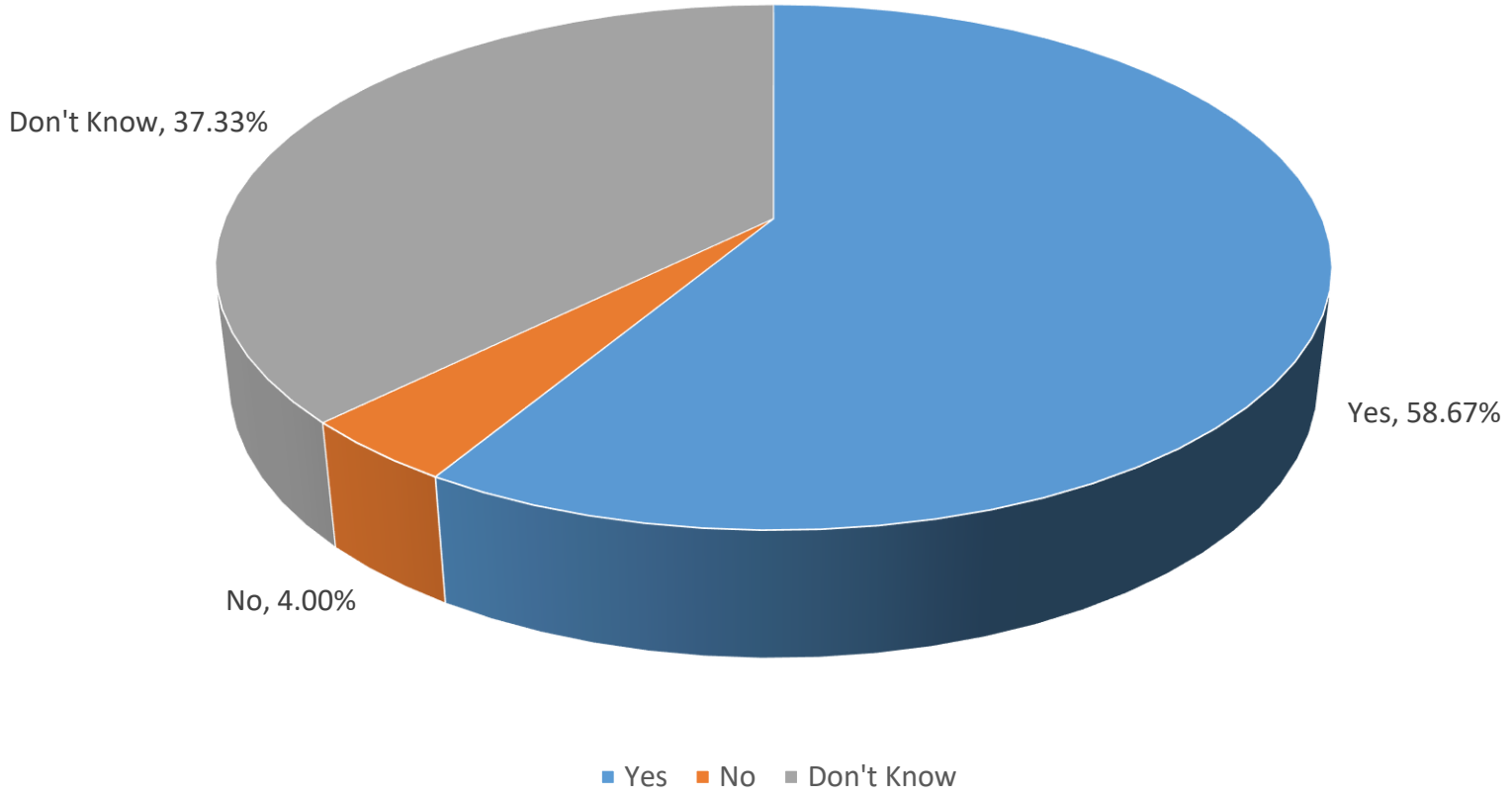
Sixty-five percent of participants recall receiving information from MSPB.



Q30: Do you recall receiving information from MSPB?

Helpfulness of MSPB Information Received (n=225)

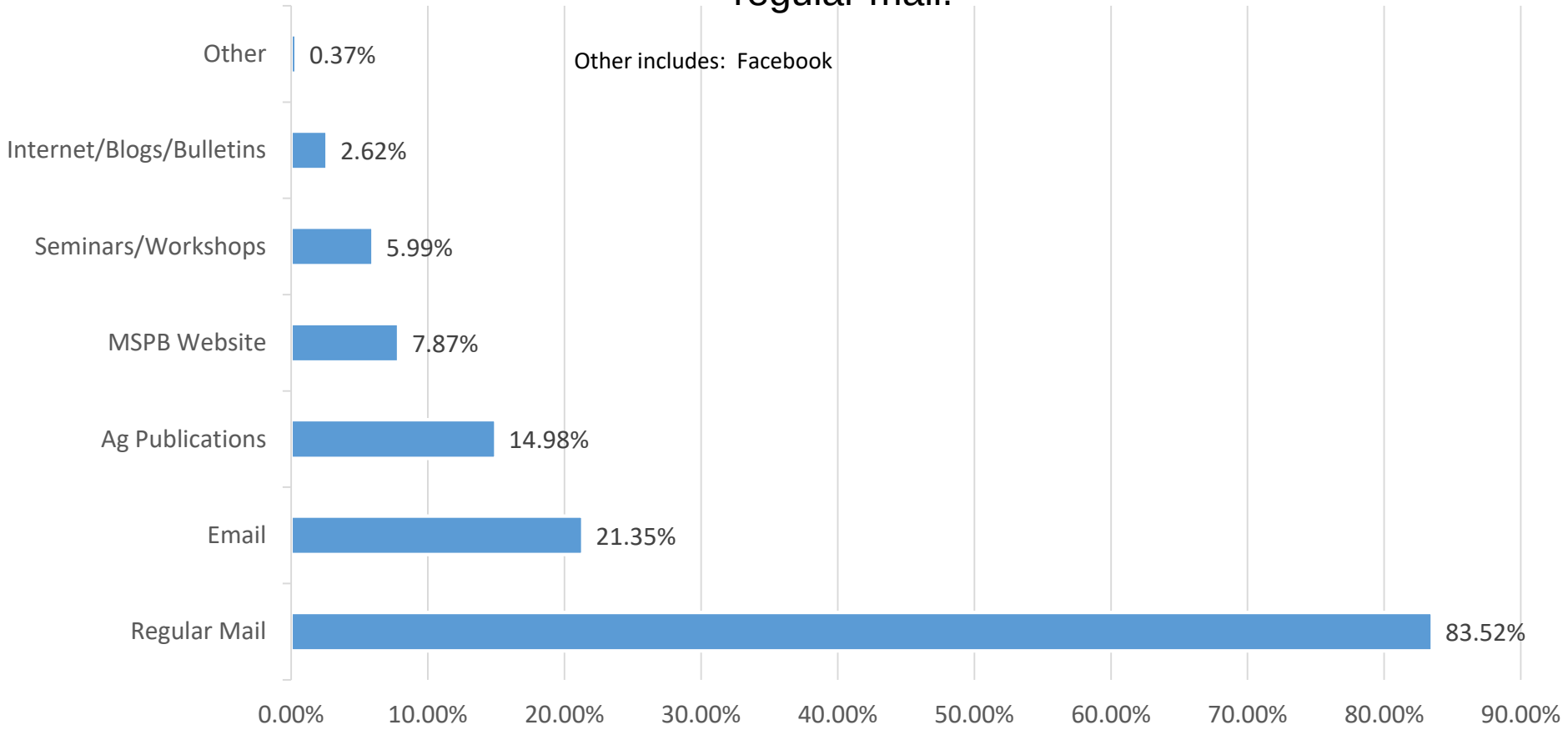
Fifty-nine percent of participants who recall receiving MSPB Information found it helpful.



Q31: If you recall receiving information, did you find it helpful for your operation?

Communication Preference

Eighty-four percent of participants prefer to receive MSPB production information through regular mail.



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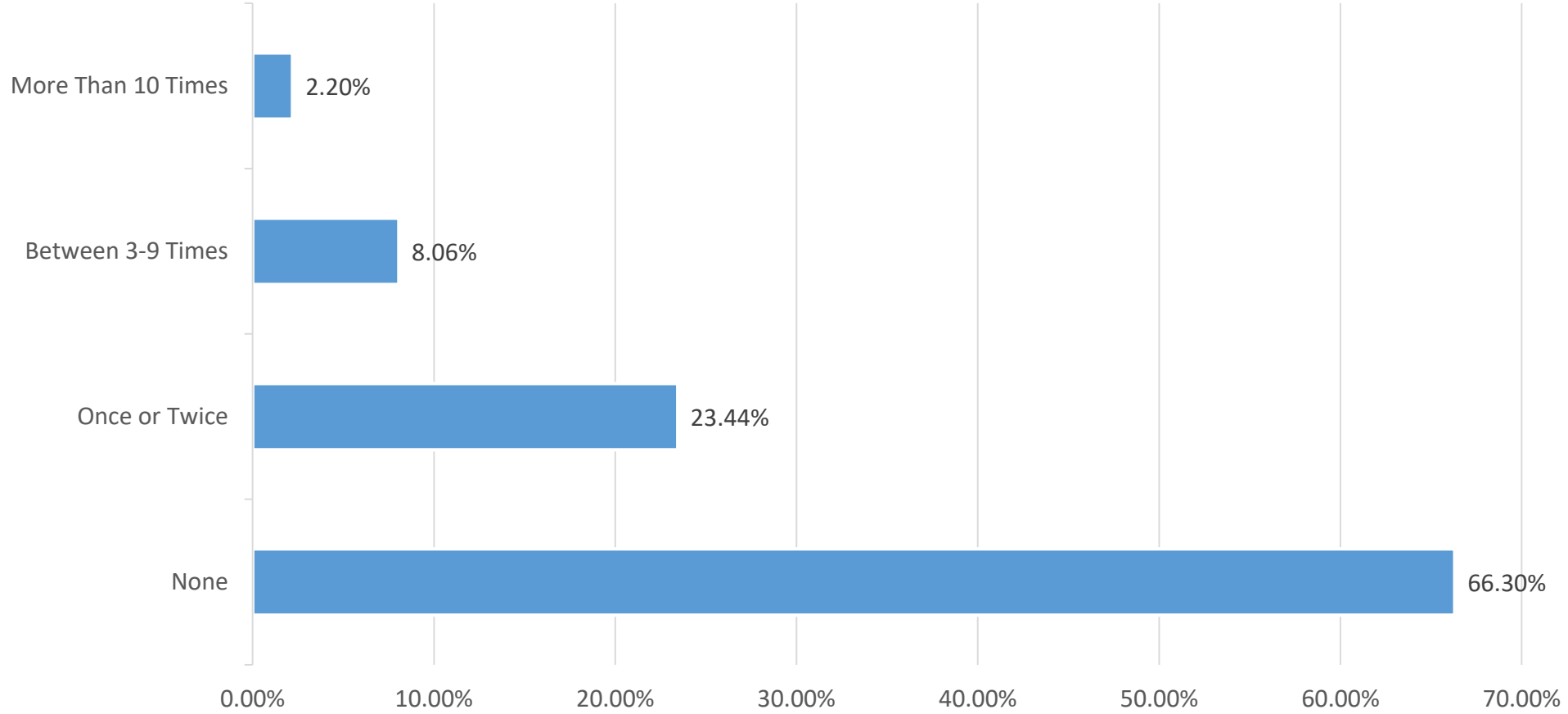
Q32: How do you like to receive soybean production information from the MSPB?

MSPB MISSISSIPPI SOYBEAN PROMOTION BOARD

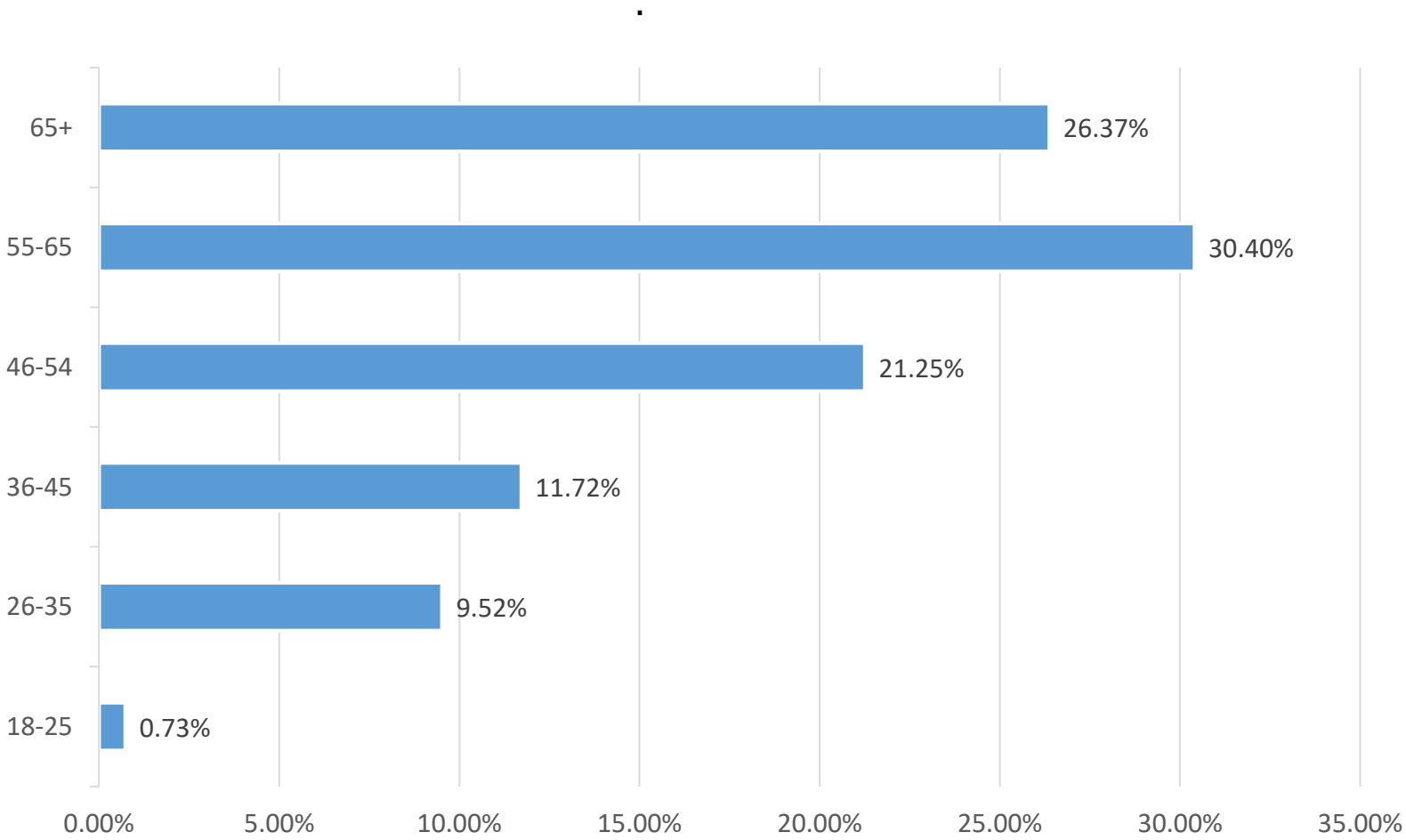
MSPB Website Use

Sixty-six percent of participants have not visited the MSPB website in the last year.

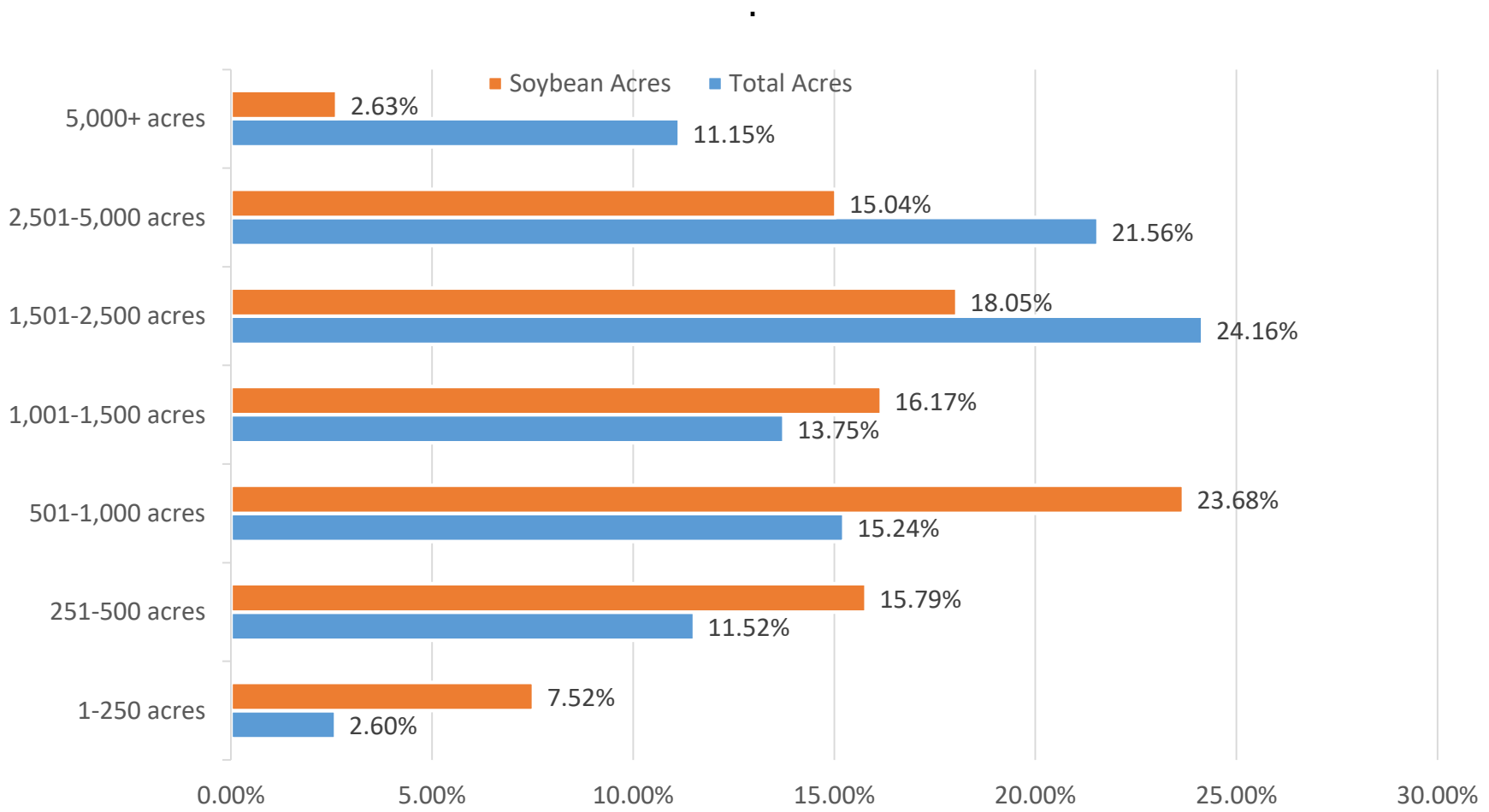


Q33: How many times have you been to the MSPB website, www.mssoy.org in the past year?

Age of Participants



Total Acres/Soybean Acres Farmed



Total Acres/Total Soybean Acres: